

30th Anniversary Year!

# Asimov's

## SCIENCE FICTION®

OCTOBER/NOVEMBER 2007

**Dark Integers**  
**Greg Egan**

**Isaac Asimov**  
**Carol Emshwiller**  
**Lisa Goldstein**  
**Robert Reed**  
**Liz Williams**

\$5.99 U.S. / \$7.99 CAN.



[www.asimov](http://www.asimov)

**See Inside!**  
**Down and Out on Coyote**  
**Part One of Allen M. Steele's**  
***Galaxy Blues***

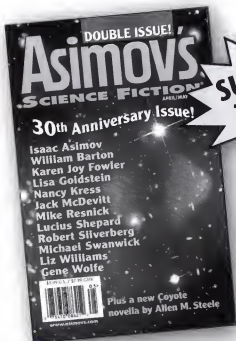
# DON'T MISS AN ISSUE!

Subscribe today and have every intriguing issue of entertaining science fiction delivered direct to your door!

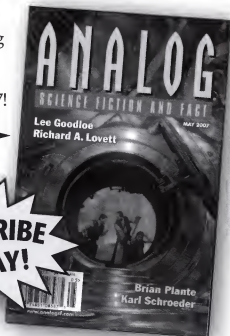
## Analog Science Fiction and Fact

An unbeatable combination of stimulating fiction stories, provocative editorials, and fascinating articles, all solidly rooted in science fact. 1 year (12 issues\*), just \$32.97!

Visit [www.analogsf.com](http://www.analogsf.com) →



**SUBSCRIBE TODAY!**



**Asimov's Science Fiction**  
Novellas and short stories from the leading science fiction and fantasy writers. Plus, candid, no-holds-barred book reviews and guest editorials. 1 year (12 issues\*), just \$32.97!

← Visit [www.asimovs.com](http://www.asimovs.com)

To order by charge card, call  
**TOLL-FREE: 1-800-220-7443** (8am - 7pm EST)

or mail your name, address, order, and payment to:

**Dell Magazines Direct**  
6 Prowitt St., Suite S • Norwalk, CT 06855-1220

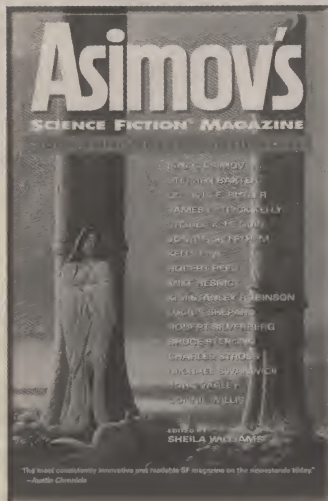
Please allow 4 to 6 weeks for delivery of your first issue. Outside U.S.A.: Add \$10 per year for shipping and handling (U.S. funds). WA residents: Add state and local taxes to your total order. \*We publish double issues twice a year which count as four issues toward your subscription.  
Offer expires 12/31/08.

47C-NSFSL

*"Every piece in this superlative collection  
is a nugget of pure science fiction gold."*

—Publishers Weekly, starred review

## The Asimov's Science Fiction 30th Anniversary Anthology



- Isaac Asimov
- Stephen Baxter
- Octavia E. Butler
- James Patrick Kelly
- Ursula K. Le Guin
- Jonathan Lethem
- Kelly Link
- Robert Reed
- Mike Resnick
- Kim Stanley Robinson
- Lucius Shepard
- Robert Silverberg
- Bruce Sterling
- Charles Stross
- Michael Swanwick
- John Varley
- Connie Willis

*Edited by*  
Sheila Williams

Founded in 1977, *Asimov's Science Fiction* has always been the home for visionary science fiction, jumpstarting the careers of the genre's most talented authors. In celebration of thirty years of groundbreaking science fiction, the seventeen extraordinary stories collected here represent some of the finest work published in *Asimov's SF*, recapturing Isaac Asimov's vision of the genre.

# Asimov's

## SCIENCE FICTION

### SERIAL

- 182 *GALAXY BLUES, (PART ONE OF FOUR):*  
DOWN AND OUT ON COYOTE . . . . . ALLEN M. STEELE

### NOVELETTES

- 20 DARK INTEGERS . . . . . GREG EGAN  
70 NIGHT CALLS . . . . . ROBERT REED  
88 NIGHTFALL . . . . . ISAAC ASIMOV  
152 DARK ROOMS . . . . . LISA GOLDSTEIN

### SHORT STORIES

- 52 AT SIXES AND SEVENS . . . . . CAROL EMSHWILLER  
63 PAID IN FULL . . . . . SUSAN FOREST  
114 LEONID SKIES . . . . . CARL FREDERICK  
128 DEBATABLE LANDS . . . . . LIZ WILLIAMS  
140 SKULL VALLEY . . . . . MICHAEL CASSUTT  
174 THE TURN . . . . . CHRIS BUTLER





**POETRY**

- 69 MODERN CONSTELLATIONS . . . . . PAT TOMPKINS**  
**87 STAR PEOPLE . . . . . BRUCE BOSTON**  
**127 LITTLE RED ROBOT . . . . . G.O. CLARK**  
**138 INTO THE DEEP . . . . . MICHAEL MEYERHOFER**  
**151 ENDANGERED . . . . . PMF JOHNSON**  
**173 THE ANGEL WHO WRITES . . . . . RUTH BERMAN**  
**181 STAYING THE COURSE . . . . . MARK RICH**

**DEPARTMENTS**

- 4 EDITORIAL: TRENDS . . . . . SHEILA WILLIAMS**  
**8 REFLECTIONS: REREADING  
THEODORE STURGEON . . . . . ROBERT SILVERBERG**  
**12 LETTERS . . . . .**  
**16 ON THE NET: PIXEL-STAINED  
TECHNOPEASANTS . . . . . JAMES PATRICK KELLY**  
**226 ON BOOKS: BURIED TREASURES . . . . . NORMAN SPINRAD**  
**238 THE SF CONVENTIONAL CALENDAR . . . . . ERWIN S. STRAUSS**

*Asimov's Science Fiction*, ISSN 1065 2698, Vol. 31, Nos. 10 & 11, Whole Nos. 381 & 382, October/November 2007, GST #R123293128. Published monthly except for two combined double issues in April/May and October/November by Dell Magazines, a division of Crosstown Publications. One year subscription \$43.90 in the United States and U.S. possessions. In all other countries \$53.90 (GST included in Canada), payable in advance in U.S. funds. Address for subscription and all other correspondence about them, 6 Prowitt Street, Norwalk, CT 06855. Allow 6 to 8 weeks for change of address. Address for all editorial matters: *Asimov's Science Fiction*, 475 Park Avenue South, New York, N.Y. 10016. *Asimov's Science Fiction* is the registered trademark of Dell Magazines, a division of Crosstown Publications. © 2007 by Dell Magazines, a division of Crosstown Publications, 6 Prowitt Street, Norwalk, CT 06855. All rights reserved, printed in the U.S.A. Protection secured under the Universal and Pan American Copyright Conventions. Reproduction or use of editorial or pictorial content in any manner without express permission is prohibited. All submissions must include a self-addressed, stamped envelope; the publisher assumes no responsibility for unsolicited manuscripts. Periodical postage paid at Norwalk, CT and additional mailing offices. Canadian postage paid at Montreal, Quebec, Canada Post International Publications Mail, Product Sales Agreement No. 40012460. POSTMASTER, send change of address to *Asimov's Science Fiction*, 6 Prowitt Street, Norwalk, CT 06855. In Canada return to Quebecor St. Jean, 800 Blvd. Industriel, St. Jean, Quebec J3B 8G4.

## TRENDS

At the countless "advice to new writers" panels that I have participated in at science fiction conventions, someone in the audience will inevitably ask about new trends in SF—what sort of trends are we seeing, which trends would we like to see more of? The anxiety that prompts this question is understandable. The beginning writer does not want to appear out of step with the times. Yet, this is a line of inquiry I am often reluctant to respond to, not due to an inability to define the trends or due to any lack of them, but simply because I really don't want to see twenty stories with similar themes showing up in Monday morning's mail.

Nonetheless, two types of trends do show up. One type is the narrow and short-lived trend. It can arise from the politics and social issues of the day or simply from a call for a pirate or zeppelin anthology. The other sort of trend is broader and longer term. It may start out as a new way to define science fiction and evolve into a subgenre. In the seventies, this trend might have been the New Wave, in the eighties, Cyberpunk and Humanist SF. The trend is often initially defined with a kind of backward notation. Proponents of the trend will look around for published stories that conform to their definition of the trend. As the trend grows in appeal, authors will deliberately attempt to write fiction that incorporates the tropes of the now established trend. Observers of today's SF have identified a number of trends, but I will limit this

editorial to two that seem to be in opposition to each other.

One example of the subgenre as trend is the recently redefined "Space Opera." As David Hartwell and Kathryn Cramer point out in their marvelous anthology, *The Space Opera Renaissance*, this term was initially coined in 1941 by Wilson Tucker to describe "the hacky, grinding, stinking, outworn spaceship yarn, or world-saving for that matter. . . ." The editors contend that the term was redefined in the eighties to mean "colorful, dramatic, large-scale science fiction adventure, competently and sometimes beautifully written, usually focused on a sympathetic, heroic central character, and plot action . . . usually set in the relatively distant future and in space or on other worlds, characteristically optimistic in tone." In their anthology, the editors showcase historical examples from the early days of SF through the late nineties and early twenty-first century. An indication that there has been a resurgence in this subgenre is Gardner Dozois and Jonathan Strahan's original anthology, *The New Space Opera*. Stories by a number of Asimov's most popular authors appear in one or both of these books. In recent years, authors writing in this tradition would seem to include Tony Daniel, Kristine Kathryn Rusch, Allen M. Steele, R. Garcia y Robertson, and Charles Stross.

A counter trend to the New Space Opera has been called Mundane SF by Geoff Ryman. In an interview with Kit Reed, for *Infinity-Plus*, Geoff defined his own mun-

# Asimov's

## SCIENCE FICTION

ISAAC ASIMOV

Editorial Director (1977-1992)

**SHEILA WILLIAMS**

Editor

**BRIAN BIENIEWSKI**

Managing Editor

**MARY GRANT**

Editorial Assistant

**VICTORIA GREEN**

Senior Art Director

**IRENE LEE**

Production Artist

**CAROLE DIXON**

Senior Production Manager

**EVIRA MATOS**

Production Associate

**ABIGAIL BROWNING**

Manager Subsidiary Rights  
and Marketing

**BRUCE W. SHERBOW**

Vice President of Sales  
and Marketing

**PETER KANTER**

Publisher

**CHRISTINE BEGLEY**

Associate Publisher

**SUSAN KENDRIOSKI**

Executive Director, Art and  
Production

**SANDY MARLOWE**

Circulation Services

**JULIA McEVOY**

Manager, Advertising Sales

---

**ADVERTISING REPRESENTATIVE**

**CONNIE GOON**

Advertising Sales Coordinator

Tel: (212) 686-7188

Fax: (212) 686-7414

(Display and Classified Advertising)

---

**Stories from *Asimov's* have won 44 Hugos and 25 Nebula Awards, and our editors have received 18 Hugo Awards for Best Editor.**

---

Please do not send us your manuscript until you've gotten a copy of our manuscript guidelines. To obtain this, send us a self-addressed, stamped business-size envelope (what stationery stores call a number 10 envelope), and a note requesting this information. Please write "manuscript guidelines" in the bottom left-hand corner of the outside envelope. The address for this and for all editorial correspondence is *Asimov's Science Fiction*, 475 Park Avenue South, New York, NY 10016. While we're always looking for new writers, please, in the interest of time-saving, find out what we're looking for, and how to prepare it, before submitting your story.

dane philosophy this way: "SF content is the future, but the function of most SF seems to be about avoiding the future. So much of the inherited tropes are actually highly unlikely. Take faster than light travel . . . there is a ghost of a possibility there, but people have run away with it. This is because they like it. It seems to open up horizons of adventure. It also conveys the message, we can burn through this planet and escape to the stars. I don't think we can. I think we're stuck on Earth. I want to write stories that are stuck on earth and throw out the unlikely tropes." Mundane SF is pretty much limited by science as we know it today. The guidelines for an upcoming special Mundane SF issue of *Interzone Magazine* define the trend by what it is not: "Faster than light travel, psi power, nanobot technology, extraterrestrial life, computer consciousness . . . brain downloading, teleportation, and time travel." A recent post on the **mundane-sf.blogspot** cited Jack Dann's "Café Culture," Nancy Kress's "Safeguard," and A.R. Morlan's "The Hikikomori's Cartoon Kimono" from the January 2007 issue of *Asimov's* as examples of this subgenre (and flat-out excludes Charles Stross's cover story—"Trunk and Disorderly"). Another example would surely be Paolo Bacigalupi's "Yellow Card Man" from our December 2006 issue.

Do these two trends contradict one another? Well, I believe science fiction is large and should contain multitudes. I'm looking for a well-rounded diet of stories, and, mostly, I'm in favor of authors simply striking out in whatever direction suits the story they're working on. Sometimes, I'm not certain that all so-called trends initially exist, or if the desire to classify stories into

categories is really just a symptom of pareidolia, our need to see patterns in everything. Still, identifying a trend can be useful when doing so sets the bar higher, making demands on the author. I like all kinds of science fiction, but I love stories with large-scale, dramatic adventure and stories based on thought-out and convincing scientific premises. I'd like to see more of both. Some authors will experiment with various trends—sometimes in the same piece of fiction—others may prefer to work within a more restricted framework. Regardless of the trend of the day, though, if I find a story effective, it will probably find a home in *Asimov's*.

**NONTRENDS IN ASIMOV'S:** If you've already perused our contents page, you may have noticed a couple of atypical items. The first of these is our novel serialization from Allen M. Steele. Every once in a blue moon, *Asimov's* has serialized books by writers like William Gibson, Michael Swanwick, and Robert Silverberg. When I got a look at Allen's new Coyote novel, *Galaxy Blues*, I decided it was about time we did it again. This four-part serial will conclude in our February 2008 issue, several months before the novel hits your local bookstore. The other unusual event is the appearance of Isaac Asimov's "Nightfall," one of science fiction's best-known classics. Readers have often told me how much they miss seeing Isaac's stories in the magazine. For reasons explained in more detail on page 88, I thought it would be fun to begin the wrap-up of our thirtieth anniversary year with this memorable story. While reprinting landmark tales probably won't become a trend in *Asimov's*, we do plan to continue with the "memorable story" trend for the magazine's lifetime. ○

AVAILABLE FROM ALL GOOD BOOKSTORES NOW

## "The King of high-concept SF"

— Jon Courtenay Grimwood, *The Guardian*

### **SPLINTER** **Adam Roberts**

978-1-84416-490-5

\$15.00 US / \$17.99 CAN

When Hector discovers his estranged father has channelled the family fortune into a bizarre survivalist sect who await the imminent destruction of the Earth, he is wracked by feelings of betrayal and doubt. Things change, however, the night an asteroid plummets from space and destroys the planet, leaving Hector and a handful of survivors struggling for survival on a splinter of the Earth.

*Splinter* is a thought-provoking science fiction novel about faith, disaster and alien intelligence by one of the new masters of the genre.

For more information and free first chapters visit  
**WWW.SOLARISBOOKS.COM**



**SOLARIS**  
SCIENCE FICTION/FANTASY/DARK FANTASY

## REREADING THEODORE STURGEON

A few months ago, I said that I'm planning to reread some of the science fiction novels that had most impressed me during my formative years in the field, back in the 1950s, by way of seeing how they stand up to my more critical eye half a century later. The first one I chose, Jack Vance's *The Dying Earth*, stood up to the scrutiny remarkably well. This time around I've picked Theodore Sturgeon's *More Than Human*, which has been regarded as a classic science fiction novel since its publication in 1953.

*More Than Human* isn't exactly a novel. It consists of three novellas, the middle one of which, "Baby Is Three," appeared first in the October 1952 issue of *Galaxy Science Fiction*, the most important SF magazine of its day. I was a Columbia freshman in October 1952, staggering under the unanticipated reading load that an Ivy League college imposed on its students, but still trying to keep up with my science fiction reading, too. (Not just for fun, either. I was already hoping to write science fiction professionally, and reading an innovative magazine like *Galaxy* was a form of vocational training for me.) I still was living at home that year, with an hour-long subway ride each way to Columbia and back, and SF was my subway reading. So I first encountered "Baby Is Three" aboard the Seventh Avenue Express, and it had a stunning impact on me. It was a first-person story,

narrated by a tough, angry teenager, in which the narrator reports on his sessions with a remarkably skillful psychotherapist who gets him to talk about his experiences living among an odd group of people with paranormal powers. The tone of the story was utterly unlike anything that any SF writers of the day, even Isaac Asimov, even Robert A. Heinlein, even Ray Bradbury, had attempted: street-talk, mostly, vivid, brisk, rough. (The therapy being practiced was L. Ron Hubbard's dianetics, the ancestor of Scientology, which Sturgeon had been dabbling with, though he didn't explicitly say so in the story.)

I wasn't the only one who was stunned by "Baby Is Three." Within the general SF community it was probably the second most widely discussed story of the year, after Philip José Farmer's "The Lovers." For the thirty-four-year-old Sturgeon, who had established his reputation in the 1940s with such stories as "Microcosmic God" and "Killozer," and more recently had been startling us all with works like *The Dreaming Jewels*, "The Stars are the Styx," and "Rule of Three," it was an announcement that he was ready to take his place in the top rank of the field. (As he would show in 1953-55 with a swarm of a dozen or more awesome novelettes and novellas.)

Major book publishers were just becoming interested in science fiction then. "Baby is Three" brought Sturgeon an offer from the new

house of Ballantine Books, which had launched an ambitious SF program with such books as Arthur Clarke's *Childhood's End* and Ray Bradbury's *Fahrenheit 451*, to expand the story to book length by adding two more novellas to the existing one. He wrote them both in about three weeks and called the book *More Than Human*.

Though I hadn't read the book in more than fifty years, I remembered it fairly well, which will tell you something of the effect it had on me (and many others) in 1953. It belongs to the subgenre of superman stories, along with such works as Olaf Stapledon's *Odd John* and H.G. Wells' *Starboughten*—novels that depict the evolution of mankind beyond the *Homo sapiens* level. The story deals with the forging of a group of freakish misfits of the peculiarly raffish kind that we came to know as Sturgeonesque people (an idiot, two speech-impaired black girls, a mongoloid baby, etc.) into a being of superior powers to which Sturgeon gives the linguistically infelicitous name of *Homo Gestalt*.

When I began my rereading, I felt myself from the very first paragraph in the hands of a master. This is how it opens:

"The idiot lived in a black and gray world, punctuated by the white lightning of hunger and the flickering of fear. His clothes were old and many-windowed. Here peeped a shinbone, sharp as a cold chisel, and there in the torn coat were ribs like the fingers of a fist. He was tall and flat. His eyes were calm and his face was dead."

No one, not even the eloquent Ray Bradbury, had managed prose like that in the science fiction of

that era. "The white lightning of hunger"—how extraordinary! "Ribs like the fingers of a fist"—who but Sturgeon could have written that, then? A generation later, William Gibson would begin his own classic novel *Neuromancer* with the startling line, "The sky above the port was the color of television, tuned to a dead channel." But Gibson had had the advantage of knowing Sturgeon's work of thirty years earlier. Sturgeon was on his own when he wrote *More Than Human*.

And as I read on through Sturgeon's portrayal of the life of the retarded man who would be one of the components of his *gestalt* superbeing, I was struck again and again by the dazzling imagery. "The idiot's eyes whose irises seemed on the trembling point of spinning like wheels." . . . "It was air with a puzzle to it, for it was still and full of the colors of dreams, all motionless, yet it had a hurry to it." . . . "His mouth opened and a scratching sound emerged. He had never tried to speak before and could not now; the gesture was an end, not a means, like the starting of tears at a crescendo of music." Some of Sturgeon's similes and metaphors go too far over the top, as when he compares the color of marmalade to stained glass. But even when he plunges off into wild verbal excess, the only crime he commits is the one of excessive ambition: even Sturgeon's reach sometimes goes beyond his grasp, but at least he is reaching, when that sort of thing was almost never attempted by science fiction writers and, usually, actively discouraged by SF editors. The prose here is remarkable stuff, of a level that Sturgeon himself rarely approached again, as his highly individual manner turned



into formula and engulfed him in his own mannerisms. Here, though, everything works wonderfully well.

But I found little things going wrong with the book as I moved on through it, and I began to remember that its author was a young man with a family of small children, who had spent his entire career writing under great pressure for poorly paying pulp magazines. Troublesome signs of pulpy overexplicitness begin turning up. Right on the first page we are told that the idiot is a creature "lacking in empathy," a textbook sort of thing to say that could well have been left for us to conclude from the character's own actions. In the pages that follow we get similarly needless auctorial prods. They are relatively rare, amidst pages of remarkable nuance and grace; but that they are there at all is a sign that Sturgeon could not entirely edit away the vestiges of his pulp-magazine background.

Each of the three novellas making up the book has a different narrative structure. The first, "The Fabulous Idiot," is third-person omniscient, introducing us not only to Lone, the idiot, but to Janie, Beanie, Bonnie, and the unnamed mongoloid child, four of the other components of the ultimate superbeing. Sturgeon glides from one viewpoint to another with breathtaking skill. The second section, "Baby Is Three" is, as said, the first-person narrative of Gerry, the unpleasant but hypergifted teenager. The final part, "Morality," reverts to third-person narrative, but this time keeps entirely to the viewpoint of a new character, Hip Barrows, who will be essential to the resolution of the plot.

This time around I was surprised to find two major characters killed off between scenes, an odd and awkward narrative strategy; and I found each of the three sections marred at its climax by the unhappy surfacing of pulp-magazine storytelling. In Part One, the idiot, who can barely speak, let alone think, unexpectedly and offhandedly flanges together an antigravity device under the telepathic guidance of the other mutants, using materials Sturgeon doesn't bother to describe. "Powered inexhaustibly by the slow release of atomic binding energy, the device was the practical solution of flight without wings, the simple key to a new era in transportation, in materials handling, and in interplanetary travel." I found that an implausible gimmick and the lines about "a new era in transportation" an intrusive editorial comment, light-years distant from the sort of prose shown in that amazing opening paragraph.

Then, at the climax of the famous central "Baby Is Three" section, comes a bulky slab of sci-fi jargon when Gerry tells the psychiatrist what he really is: "I'm the central ganglion of a complex organism which is composed of Baby, a computer; Bonnie and Beanie, teleports; Janie, telekineticist; and myself, telepath and central control." All that is true; but nobody outside the pages of a science fiction magazine would have talked that way in 1953, and nobody but a science fiction reader would have any idea what "teleports" and "telekineticists" were. It is a disturbing reminder that Sturgeon, for all his stylistic skill, had developed those skills in magazines with names like *Astounding Science Fiction* and *Startling Stories*.



In the final section, twenty troublesome pages are devoted to the vast, heavy-handed expository conversation in which Janie, the telekinetic, explains to Hip Barrows, its mystified protagonist, what his life and Sturgeon's book are all about. Hip digests this stuff—which a less hurried writer might have told in a less schematic way—and then launches into an interior monologue about the difference between ethics and morality (“There must be a name for the code, the set of rules, by which an individual lives in such a way to help his species—something over and above morals”) that does not have the sound of fiction at all but the tone of the ponderous and often fatuous editorials with which John W. Campbell, Jr., regaled the readers of his magazine *Astounding Science Fiction* between 1937 and 1971. Which leads, finally, to the discursive and expository pages in which Hip neutralizes the villainous Gerry and completes the forging of the new superbeing.

A classic science fiction novel? Yes, certainly, for all its flaws: a

trailblazer, a pathfinder, and for the most part a rich and moving book besides. A literary masterpiece that one can set on the same shelf with the books of Faulkner, Fitzgerald, Updike, Bellow, Roth? Alas, no. I had hoped, reading it now, that *More Than Human* wholly transcended the clichés of science fiction's pulp era. It doesn't. For all his enormous prose skill and soaring insight into the human soul, Sturgeon couldn't fully shake off the set of traits that those pulp magazines had engrained in him. It hurts, when he lapses suddenly into the bad old ways of the pulps, the jargon and the hasty tricks, because the rest of the book is so good and the pulp stuff knocks us out of the painful reality of his strange characters and back into a more primitive era of storytelling. But still, it represents a mighty step forward from the magazine era. It deserves to be cherished for that reason alone; but we can and should go to it today not just as a landmark in the emancipation of science fiction but as a worthy novel in its own right. ○

## VISIT OUR WEBSITE

[www.asimovs.com](http://www.asimovs.com)

Don't miss out on our lively forum, stimulating chats, controversial and informative articles, and classic stories.

**Log on today!**

# LETTERS

Dear Sheila,

I just wanted to say how much I enjoyed (virtual) Michael Swanwick's story, "Congratulations from the Future!" in the July 2007 issue of *Asimov's*. We take ourselves and our genre so seriously sometimes, that we forget that it's okay to be funny and joke around. Michael's story showed that in addition to serious, thought-provoking stories that are the staple of our genre, we can also laugh at ourselves. Kudos to Michael for a really funny, entertaining story.

Jamie Todd Rubin  
Riverdale, MD  
rubin@panix.com

Hi Sheila,

I was just tallying up all the Hugo nominations that *Asimov's* got this year for best novella, novelette, and short story. I certainly don't know if any of them will win, but isn't ten nominated stories some sort of record? I really don't remember that happening before.

Robert May  
Columbus, OH

*We were curious as well, and research into the last few years of Hugo nominations determined that we had eleven (of sixteen) nominations in the year 2000. All personal records aside, it's tremendously satisfying to have our authors nominated, and we are pleased to give such excellent fiction a home in Asimov's.*

Dear editors,

I enjoyed William Barton's "The

Rocket into Planetary Space" very much, and look forward to further stories of this nature. I was prompted to write by his remembrances at age seven, ten, eighteen, twenty-five, etc. On the very first page of the story he gave me one of those remembrances: his mention of launch pads on Kwajalein island. In the 1950s I was a young chemical engineer at Western Electric (think AT&T), and at that time our Defense Activities Division had a government contract for the Nike missile. The test site was on Kwajalein island, and "SpaceX's Falcon-9 pads" referred to in the story may well have been those old Nike launch pads used for test flights!

Jack E. Garrett  
Monroe Township, NJ

Dear Editor,

I just read James Patrick Kelly's article about Heinlein, and how he wonders if today's stories in *Asimov's* (and all of SF, I'd assume) are too far-reaching for younger generations to get into. As a twenty year old, I'll have to disagree. The problem just lies in my generation's unwillingness to read! Hell, even as someone who loves to read, I mostly get distracted by videogames and movies, and this bloody Internet that I can't seem to escape from! I just subscribed a few months ago on a whim (my first issue being the thirtieth anniversary), and I found myself not only enjoying all the stories, but really getting into a few of them and relating with the characters. This, coming from a guy whose major reading time has been spent on

Harry Potter and Anne Rice's *Vampire Chronicles*. I knew nothing about the science fiction world as little as a month ago, but it's like I'm learning more every day. Each new article in your magazine seems to tell me about new authors whose work I'd love to delve into further! I honestly enjoy every page that I read. Anyway, I just wanted to chime in and say that these stories are very accessible for people my age; the difficulty is getting the material into their hands!

Brett Simon  
Lombard, IL

Dear editor:

Would you please consider reminding Harry Turtledove, and whoever proofread, reviewed, and approved his story, "News From the Front," in the June 2007 issue, that the *Baltimore News-Post* of 1942 would have been unlikely to have referred to students at the United States Naval Academy as "cadets" (p. 35). They have always been called "Midshipmen," as are students of the United States Merchant Marine Academy. "Cadets" attend the United States Military, United States Air Force, and United States Coast Guard Academies. Newspaper, magazine, and even television reporters in the area are well aware of this, as would be anyone taking the trouble to do minimal research. It is not a trivial point; it is a matter of due and deserved respect.

In an otherwise painstakingly researched story, in an assiduously edited magazine, it seems, at best, careless. If your magazine were not of such outstanding quality, I would not bother to mention it. I remain a huge fan of the magazine and will subscribe as long as you publish. Thank you for all the great work.

Larry Neff  
Baltimore, Maryland

The author replies. . . .

*Thanks. One can't be perfect all the time, no matter how one tries. And when one isn't, one will hear about it, won't one?*

—Harry Turtledove

Dear Ms. Williams,

If the intent was to encourage letters to the editor, I imagine that you couldn't do better than "News from the Front." I won't speculate about Mr. Turtledove's politics, but I take issue with his implicit message. In making a parallel between a failed World War Two and the current war in Iraq, he ignores the differences that invalidate the comparison, beginning with who invaded whom.

I'm tempted to go on, but I don't think I should. As a historian, Mr. Turtledove should know that Godwin's Rule of Nazi Analogies applies, not only to someone who compares Bush to Hitler, but also to anyone who claims that opposition to the Iraq War is tantamount to causing the allies to lose World War Two.

Arthur Dorrance

Dear editors,

I have just finished reading Mr. Turtledove's story "News from the Front" in the June 2007 issue of *Asimov's*. I have never before been so moved to write my comments to the editors and (should you pass it along, as I hope you will) to the author of a story.

This is a powerful story. No matter your political opinions about our current administration and the war in Iraq (or any other war in U.S. history, for that matter), this story makes you take a step back and look again at what you believe. It may not change your mind, but it will (hopefully) make you think a bit more. It has certainly had that effect on me. I am especially

impressed at how the story could easily evoke completely opposite responses from readers, depending on their current beliefs and opinions. Choosing such a well regarded president and administration as the subject for the story ran the risk of incurring readers' ire, but it was an effective way to shake things up.

Thank you, Mr. Turtledove. This is an excellent story.

Kendra Myers  
St. Paul, MN

Dear Editors,

For the past year or so, it has seemed to me that *Asimov's* has been publishing more and more stories that are less science fiction than fantasy. Because I know that the definition of these genres varies from person to person, I haven't complained heretofore. I realize that not all sci-fi has to be "space opera" in the tradition of Heinlein, Sturgeon, Asimov, Clarke, and others like them, although those are the stories that I personally hunger for and remember best. Hoping for more of that ilk is the only reason I subscribe to the magazine.

Now, we have "Chainsaw on Hand" (March 2007). I have read and re-read this story, and can find no way in which it could qualify as science fiction by anyone's definition. It does not postulate any future world or civilization, it does not contain anything remotely resembling speculative extrapolation of current technology or societal more. Although both extraterrestrials and time manipulation are vaguely hinted at, they are never described or actualized. "Something weird" may be going on, but that weirdness is never described or "fulfilled" and could just as well be the hallucinations of a despondent divorced man in the middle of a cold winter. It is a sad little semi-romantic vignette set in the present day,

well written and all that, but it should have been published in *Cosmo*, or used as the basis for a Harlequin romance. I humbly submit that it has no business in *Asimov's*.

Doug Jacques  
Lewisburg, TN

Dear editors,

It is a tremendous relief to know that Bertie Wooster and Jeeves and perhaps the pig from Blandings survived the singularity. I'm not so sure I can say the same for myself surviving Charles Stross's "Trunk and Disorderly" (January 2007). Helpless laughter prevents any further comment.

Please convey my congratulations to Mr. Stross on his recovery from singularity. I fear, however, that his counselors, therapists, and physicians may be a bit premature in unleashing him on the world again.

Christine Ertell  
Richmond, VA

Dear Ms. Williams,

As a lifelong fan of almost all forms of SF and a sometime subscriber to *Asimov's*, I wanted to say that I was pleased by the August 2007 issue and particularly pleased by "The Mists of Time" by Tom Purdom. I have something of an interest in the history of slavery and the abolition movement and enjoyed the story right up to the end. It was only at this point that I began to think back on what I had read and noticed something rather odd—I had assumed that the English-speaking captain (William Zachary) and the crew of the slave ship were Americans, but, on rereading the story, I found on pages 111-112 that this was pretty explicitly ruled out. I quote, "Zachary was speaking with an accent that sounded, to Emory's ear, a lot like some of the varieties of English emitted by the crew on the *Sparrow*."

How odd! Is the reader supposed to believe that the slavers were English, Canadians, or Aussies? I suppose it's possible, but the year is supposed to be the sixth in the reign of good Queen Vicky (i.e., 1843). After a quick review of the naval attempts to suppress the slave trade off the coasts of Africa in the first half of the nineteenth century, I find that *Americans* were, by far, the mostly likely English speakers to flout the remarkably lax enforcement of U.S. law deeming the importation of slaves to be piracy and punishable by death. Again, how odd for the author (or copy editor, or publisher) to go out of his or her way to rule out—for no structure or content reason that I can see—the most likely nationality for the novella's prime villains! Rewriting history are we to protect the criminals? Ha ha. Just kidding. Of course, we know that Americans would never do such a thing.

Ken Leland  
Toronto, ON  
Canada

The author replies. . . .

*I can assure Mr. Leland that I wasn't trying to whitewash the American role in the slave trade. I've been circulating a novel proposal, in fact, in which the slave ship belongs to a Philadelphian. I'm well aware that we didn't do our bit to suppress the trade and even adhered to policies that seriously hindered the British efforts. As Mr. Leland undoubtedly knows, many non-American slavers hid under the American flag because the U.S. refused to let the British search American ships.*

*In the passage Mr. Leland questions, I was merely trying to make it clear the slavers were obviously flying a false flag. I was also trying to give the reader some idea of the legal complexities British officers had to deal with as they engaged in one of the most honorable campaigns any military force has ever undertaken. A slave ship with an American captain might have been more probable, but the trade attracted men from every nation.*

—Tom Purdom

We welcome your letters. They should be sent to **Asimov's**, 475 Park Avenue South, Floor 11, New York, NY 10016, or e-mailed to **asimovs@dellmagazines.com**. Space and time make it impossible to print or answer all letters, but please include your mailing address even if you use e-mail. If you don't want your address printed, put it only in the heading of your letter; if you do want it printed, please put your address under your signature. We reserve the right to shorten and copy-edit letters. The email address is for editorial correspondence *only*—please direct all subscription inquiries to: 6 Prowitt Street, Norwalk, CT 06855.

## PIXEL-STAINED TECHNOPEASANTS

*stained*

In April of this year, **Howard Hendrix** <[howardvhendrix.com](http://howardvhendrix.com)>, then the sitting Vice President of the **Science Fiction Writers of America** <[sfga.org](http://sfga.org)>, poked a stick into a metaphorical hornet's nest. In the course of explaining why he had decided not to run for President of SFWA, traditionally a course that many VPs follow, Hendrix let loose with a rant <<http://community.livejournal.com/sfga/10039.html>> about publishing on the web. He said he felt estranged from a segment of SFWA members: web enthusiasts who "claim they're just posting their books for free in an attempt to market and publicize them, but to my mind they're undercutting those of us who aren't giving it away for free and are trying to get publishers to pay a better wage for our hard work." In the course of making his argument, Hendrix used some inflammatory language which he later came to regret. He called these writers "web-scabs" and wrote that they were "converting the noble calling of Writer into the life of Pixel-stained Technopeasant Wretch." Hendrix later issued a less colorful **clarification** <[mediabistro.com/gallery/cat/web\\_tech/exclusive\\_hendrix\\_clarifies\\_scabrous\\_remarks\\_on\\_web\\_publishing\\_57032.asp](http://mediabistro.com/gallery/cat/web_tech/exclusive_hendrix_clarifies_scabrous_remarks_on_web_publishing_57032.asp)> of his thoughts on this matter in which he

admitted that the term scab was "incendiary" and "has proven unfortunate." Still he reiterated "My concern is that, in the long term, as more and more people become schooled to reading off the screen rather than from the printed page, free online whole-book posting may set a precedent of 'why buy the cow, when you can get the milk for free?' which in the end will benefit conglomerates rather than authors as a class."

You will excuse me if I mention my own work here, but I am myself a card-carrying Pixel-stained Technopeasant. I have podcasted two novels and more than a dozen stories. I recently redesigned my website <[jimkelly.net](http://jimkelly.net)> so that, with a single click, you can download PDFs of an array of content including previously published stories from *'Mov's*, back numbers of this column, craft essays on writing, appreciations of various luminaries in our little corner of literature, and a clutch of poems. I'm an advocate of the Creative Commons license. And I've been giving my stuff away pretty much since the dawn of author websites.

Let's pause here for an infodump on **Creative Commons** <[creativecommons.org](http://creativecommons.org)>: Briefly, the Creative Commons license offers a middle ground between an author enforcing the sometimes draconian rules of copyright (*You stole my work,*

swine. Now talk to my lawyers!) and the self-denial of releasing work directly into the public domain (*Information deserves to be free and I don't really need to eat, la, la, la!*). Under Creative Commons, I grant permission for anyone to distribute my content for free to anyone they choose as long as they meet three conditions: They must attribute the work to me, they must not alter it, and they can't charge anyone for it. I continue to reserve the right to cash in on my stuff for myself. End of infodump.

And yet—and my fingers quiver over the keyboard as I type this—I wonder if at least some of the points Hendrix was trying to make might warrant further discussion.

But before I utterly sabotage my credibility online and call the fury of the blogosphere down on my head, let's look at some of what was written in the aftermath of Hendrix's rant.

### wrathful

The reaction was heated and swift. It should come as no surprise that several of the luminaries who have championed giving fiction away for free should take Hendrix to task in their blogs. Most made the point that they were using their freebies as marketing tools for specific books or as a promotional tool for their overall careers. The always-readable **John Scalzi** <<http://community.livejournal.com/sfwa/11289.html>> responded in depth, going through the impressive list of free work available on his site. "The fact is, I got paid—well—for all the writing on that list above. The fact is that *other* people got paid as well." **David**

**Wellington** <[brokentype.com/davidwellington/2007/04/message\\_from\\_a.html](http://brokentype.com/davidwellington/2007/04/message_from_a.html)> explained, "I published on-line, for free, to develop a readership." **Michael A. Stackpole** <[michaelstackpole.com](http://michaelstackpole.com)> wrote, "The internet allows authors to provide samples of their work. It allows them to get readers and listeners excited about a story or some characters."

But perhaps the most delicious retort in the Hendrix affair came from novelist **Jo Walton** <<http://papersky.livejournal.com/318273.html>>. "In honour of Dr. Hendrix, I am declaring Monday 23rd April International Pixel-Stained Technopeasant Day. On this day, everyone who wants to should give away professional quality work online." Writers of all stripes signed on to celebrate IP-STD. For example: **Amy Sterling Casil** <[members.aol.com/asterling/amypage.htm](http://members.aol.com/asterling/amypage.htm)>, **William Shunn** <[shunn.net](http://shunn.net)>, **Sheila Finch** <[sff.net/people/sheila-finch](http://sff.net/people/sheila-finch)>, **Will Shetterly** and **Emma Bull** <[shetterly.googlepages.com/home](http://shetterly.googlepages.com/home)>, **Robert Reed** <[robertreedwriter.com](http://robertreedwriter.com)>, **Jennifer Pelland** <[jenniferpelland.com](http://jenniferpelland.com)>, **Matt Ruff** <[home.att.net/~storytellers/index.html](http://home.att.net/~storytellers/index.html)>, **Charles Stross** <[antipope.org/Charlie](http://antipope.org/Charlie)>, and **Karina Sumner-Smith** <[karinasumner.smith.com](http://karinasumner.smith.com)>—to name but ten of the over seventy writers who posted short stories, novelettes, novellas, novels, samples of novels, poetry, lyrics, non-fiction, audio, video, art, comics, and clothing. **Clothing?** <[cafepress.com/technopeasant](http://cafepress.com/technopeasant)>.

### forever free

Although I wear my pixel stains proudly, I do wonder about the fu-



ture of giving fiction away on the web. First of all, let me say that there is no way to stop the practice, nor should there be. I intend to keep doing it myself. In my opinion, writers can ill afford not to have a web presence and I am convinced that offering free stories is essential to creating a website that is worth clicking. And I agree with those who say that we have an unprecedented opportunity to promote our careers by giving content away—for now. However, one reason why this marketing tactic works for the moment is that there are comparatively few writers doing it. When **Cory Doctorow** <[craphound.com](http://craphound.com)> released **Down and Out in the Magic Kingdom** <[craphound.com/down](http://craphound.com/down)> for downloading under a Creative Commons license simultaneously with its publication by Tor, he was making **copyfight** <[copyfight.corante.com](http://copyfight.corante.com)> history. Since then, Charles Stross has released **Accelerando** <[accelerando.org](http://accelerando.org)> and **Peter Watts** <[rifiers.com](http://rifiers.com)> has released **Blindsight** <[rifiers.com/real/Blindsight.htm](http://rifiers.com/real/Blindsight.htm)> as Creative Commons texts—and yet they are seen as indulging in risky literary behavior. By all reports, when these folks made e-versions of their books freely available, it actually increased sales of the paper versions. However, will this still remain the case once hundreds of writers adopt this tactic?

If the experience of the authors in the **Baen Free Library** <[baen.com/library](http://baen.com/library)> is any indication, the answer would seem to be yes. Begun in 1999 and spearheaded by First Librarian **Eric Flint** <[ericflint.net](http://ericflint.net)> and the late **Jim Baen** <[david-drake.com/baen.html](http://david-drake.com/baen.html)>, this bold experiment in electronic publishing would seem to have paid off

handsomely for the dozens of writers who have posted their books there, free to download. Like those writers releasing their work under a Creative Commons license, participants in the Baen Free Library have seen their sales go up. Meanwhile, **Eric Flint** scoffs at the threat of on-line piracy that has given so many other writers pause. “Don’t bother robbing me, twit. I will cheerfully put up the stuff for free myself. Because I am quite confident that any ‘losses’ I sustain will be more than made up for by the expansion in the size of my audience.”

Currently, all of these writers make their money on the paper books that traditional publishers produce, which is how they can afford to give the e-versions away. But what of those writers who don’t have a book contract with **Tor** <[torforge.com](http://torforge.com)> or **Baen** <[baen.com](http://baen.com)>? Some have argued that since readers of e-books have come to expect that they will be free, there will be no way for writers who are trying to publish digital-only versions to charge for their work. The waters here are very muddy, it seems to me. For one thing, e-publishing is still a small slice of the publishing pie chart, and absent the invention of a cheap e-reader that will replace the paper book, is likely to remain so. By the way, the **Sony Reader** <<http://www.learningcenter.sony.us/assets/itpd/reader>> is not that invention.

There is a way to monetize purely digital publications. **Scott Sigler** <[scottsigler.net](http://scottsigler.net)> has parlayed his podcast novels into a publishing phenomenon, with a multi-book contract and a movie deal. In 2005 Scott began podcasting his unpublished novel **EarthCore** <[podioobooks.com/title/earthcore](http://podioobooks.com/title/earthcore)>.



It was the world's first podcast-only novel. Since that time Scott claims that fans have downloaded over three million files of his fiction. And now some of those files include advertising. This would seem to be a promising business model, as long as a writer can deliver eyeballs or eardrums in numbers sufficient to attract advertisers. It may well be that someday you will be reading the latest Connie Willis story courtesy of Microsoft HyperVista 4.0.

*you get what you don't pay for*

And just why would you pay for science fiction when you could get it for free? Well, the easy answer is because you want to read the best writers. They tend to tell the most interesting stories, the ones with bold ideas and memorable characters and clever plots. The ones who can make marks on a page—or a screen—dance in your head. Say you go to some free website where writers who have just obtained their poetic licenses are practicing their craft. You can still have a science fiction experience, but it may not be of the quality you have come to expect here at *'Mov's*. But the thing is—and don't tell Sheila that I told you this—not every story in this issue is going to be selected for a Year's Best anthology or get nominated for a Nebula or Hugo or get displayed behind glass at the **Science Fiction Museum** <[sfhome.world.org](http://sfhome.world.org)>. Some misguided readers might assume that the "average" Asimov's story is really not all that much stronger than the top story over at **Astonishingly Free Science Fantasy Webzine**. They would be wrong, of course, but it is

not an unreasonable assumption. And therein lies a danger to all flavors of traditional publishing. Allocation of one's reading time is a zero sum game. Every minute spent reading free fiction is a minute lost to reading fiction that some author got paid for. Yes, there are many, many circumstances in which writers will benefit from giving their stuff away, but in all things, a balance must be struck. It says here that in the turbulent times to come, that balance may be difficult to maintain.

*exit*

Warning! I'm going to talk about myself some more.

It would be a shame if people dismissed Howard Hendrix on the basis of a few intemperate remarks. He volunteered to serve SFWA and I honor that service. He has opinions worth considering, even if I don't agree with all of them. But I have a personal data point to offer with regards to the efficacy of giving fiction away on the web. I recently published a novella called *Burn* with **Tachyon Publications** <[tachyonpublications.com](http://tachyonpublications.com)>, a small press that gave me a small press print run. I was able to convince my editor Jacob Weisman to let me podcast the book, a chapter a week for sixteen weeks, beginning right around the pub date. Many, *many* more thousands listened to *Burn* than read it. I was astonished when it made the Hugo ballot and got the thrill of my career when it won the Nebula. Would my little book have gotten this kind of recognition had I not given it away for free?

I don't think so. ○

# DARK INTEGERS

Greg Egan

Our new story from Greg Egan is a stand-alone tale that follows on the events of "Luminous" (September 1995). It's also the first story we've seen from Greg since "Oracle" appeared in our July 2000 issue. The author tells us, though, that "after spending a few years away from writing, trying to assist some of the asylum seekers that Australia imprisons in remote detention centers, I recently completed my seventh SF novel, *Incandescence*, which is due to be published by Gollancz in the UK in May 2008." We hope that this return to writing means we'll soon be seeing more of his brilliant fiction.

**"G**ood morning, Bruno. How is the weather there in Sparseland?"

The screen icon for my interlocutor was a three-holed torus tiled with triangles, endlessly turning itself inside out. The polished tones of the male synthetic voice I heard conveyed no specific origin, but gave a sense nonetheless that the speaker's first language was something other than English.

I glanced out the window of my home office, taking in a patch of blue sky and the verdant gardens of a shady West Ryde cul-de-sac. Sam used "good morning" regardless of the hour, but it really was just after ten A.M., and the tranquil Sydney suburb was awash in sunshine and birdsong.

"Perfect," I replied. "I wish I wasn't chained to this desk."

There was a long pause, and I wondered if the translator had mangled the idiom, creating the impression that I had been shackled by ruthless assailants, who had nonetheless left me with easy access to my instant messaging program. Then Sam said, "I'm glad you didn't go for a run today. I've already tried Alison and Yuen, and they were both unavailable. If I hadn't been able to get through to you, it might have been difficult to keep some of my colleagues in check."

I felt a surge of anxiety, mixed with resentment. I refused to wear an iWatch, to make myself reachable twenty-four hours a day. I was a mathematician, not an obstetrician. Perhaps I was an amateur diplomat as well, but even if Alison, Yuen, and I didn't quite cover the time zones, it would never be more than a few hours before Sam could get hold of at least one of us.

"I didn't realize you were surrounded by hotheads," I replied. "What's the great emergency?" I hoped the translator would do justice to the sharpness in my voice. Sam's colleagues were the ones with all the firepower, all the resources; they should not have been jumping at shadows. True, we had once tried to wipe them out, but that had been a perfectly innocent mistake, more than ten years before.

Sam said, "Someone from your side seems to have jumped the border."

"Jumped it?"

"As far as we can see, there's no trench cutting through it. But a few hours ago, a cluster of propositions on our side started obeying your axioms."

I was stunned. "An isolated cluster? With no derivation leading back to us?"

"None that we could find."

I thought for a while. "Maybe it was a natural event. A brief surge across the border from the background noise that left a kind of tidal pool behind."

Sam was dismissive. "The cluster was too big for that. The probability would be vanishingly small." Numbers came through on the data channel; he was right.

I rubbed my eyelids with my fingertips; I suddenly felt very tired. I'd thought our old nemesis, Industrial Algebra, had given up the chase long ago. They had stopped offering bribes and sending mercenaries to harass me, so I'd assumed they'd finally written off the defect as a hoax or a mirage, and gone back to their core business of helping the world's military kill and maim people in ever more technologically sophisticated ways.

Maybe this wasn't IA. Alison and I had first located the defect—a set of contradictory results in arithmetic that marked the border between our mathematics and the version underlying Sam's world—by means of a vast set of calculations farmed out over the internet, with thousands of volunteers donating their computers' processing power when the machines would otherwise have been idle. When we'd pulled the plug on that project—keeping our discovery secret, lest IA find a way to weaponize it—a few participants had been resentful, and had talked about continuing the search. It would have been easy enough for them to write their own software, adapting the same open source framework that Alison and I had used, but it was difficult to see how they could have gathered enough supporters without launching some kind of public appeal.

I said, "I can't offer you an immediate explanation for this. All I can do is promise to investigate."

"I understand," Sam replied.

"You have no clues yourself?" A decade before, in Shanghai, when Alison, Yuen, and I had used the supercomputer called Luminous to mount a sustained attack on the defect, the mathematicians of the far side had

grasped the details of our unwitting assault clearly enough to send a plume of alternative mathematics back across the border with pinpoint precision, striking at just the three of us.

Sam said, "If the cluster had been connected to something, we could have followed the trail. But in isolation it tells us nothing. That's why my colleagues are so anxious."

"Yeah." I was still hoping that the whole thing might turn out to be a glitch—the mathematical equivalent of a flock of birds with a radar echo that just happened to look like something more sinister—but the full gravity of the situation was finally dawning on me.

The inhabitants of the far side were as peaceable as anyone might reasonably wish their neighbors to be, but if their mathematical infrastructure came under threat they faced the real prospect of annihilation. They had defended themselves from such a threat once before, but because they had been able to trace it to its source and understand its nature, they had shown great forbearance. They had not struck their assailants dead, or wiped out Shanghai, or pulled the ground out from under our universe.

This new assault had not been sustained, but nobody knew its origins, or what it might portend. I believed that our neighbors would do no more than they had to in order to ensure their survival, but if they were forced to strike back blindly, they might find themselves with no path to safety short of turning our world to dust.

Shanghai time was only two hours behind Sydney, but Yuen's IM status was still "unavailable." I emailed him, along with Alison, though it was the middle of the night in Zürich and she was unlikely to be awake for another four or five hours. All of us had programs that connected us to Sam by monitoring, and modifying, small portions of the defect: altering a handful of precariously balanced truths of arithmetic, wiggling the border between the two systems back and forth to encode each transmitted bit. The three of us on the near side might have communicated with each other in the same way, but on consideration we'd decided that conventional cryptography was a safer way to conceal our secret. The mere fact that communications data seemed to come from nowhere had the potential to attract suspicion, so we'd gone so far as to write software to send fake packets across the net to cover for our otherwise inexplicable conversations with Sam; anyone but the most diligent and resourceful of eavesdroppers would conclude that he was addressing us from an internet café in Lithuania.

While I was waiting for Yuen to reply, I scoured the logs where my knowledge miner deposited results of marginal relevance, wondering if some flaw in the criteria I'd given it might have left me with a blind spot. If anyone, anywhere had announced their intention to carry out some kind of calculation that might have led them to the defect, the news should have been plastered across my desktop in flashing red letters within seconds. Granted, most organizations with the necessary computing resources were secretive by nature, but they were also unlikely to be motivated to indulge in such a crazy stunt. Luminous itself had been de-

commissioned in 2012; in principle, various national security agencies, and even a few IT-centric businesses, now had enough silicon to hunt down the defect if they'd really set their sights on it, but as far as I knew Yuen, Alison, and I were still the only three people in the world who were certain of its existence. The black budgets of even the most profligate governments, the deep pockets of even the richest tycoons, would not stretch far enough to take on the search as a long shot, or an act of whimsy.

An IM window popped up with Alison's face. She looked ragged. "What time is it there?" I asked.

"Early. Laura's got colic."

"Ah. Are you okay to talk?"

"Yeah, she's asleep now."

My email had been brief, so I filled her in on the details. She pondered the matter in silence for a while, yawning unashamedly.

"The only thing I can think of is some gossip I heard at a conference in Rome a couple of months ago. It was a fourth-hand story about some guy in New Zealand who thinks he's found a way to test fundamental laws of physics by doing computations in number theory."

"Just random crackpot stuff, or . . . what?"

Alison massaged her temples, as if trying to get more blood flowing to her brain. "I don't know, what I heard was too vague to make a judgment. I gather he hasn't tried to publish this anywhere, or even mentioned it in blogs. I guess he just confided in a few people directly, one of whom must have found it too amusing for them to keep their mouth shut."

"Have you got a name?"

She went off camera and rummaged for a while. "Tim Campbell," she announced. Her notes came through on the data channel. "He's done respectable work in combinatorics, algorithmic complexity, optimization. I scoured the net, and there was no mention of this weird stuff. I was meaning to email him, but I never got around to it."

I could understand why; that would have been about the time Laura was born. I said, "I'm glad you still go to so many conferences in the flesh. It's easier in Europe, everything's so close."

"Ha! Don't count on it continuing, Bruno. You might have to put your fat arse on a plane sometime yourself."

"What about Yuen?"

Alison frowned. "Didn't I tell you? He's been in hospital for a couple of days. Pneumonia. I spoke to his daughter, he's not in great shape."

"I'm sorry." Alison was much closer to him than I was; he'd been her doctoral supervisor, so she'd known him long before the events that had bound the three of us together.

Yuen was almost eighty. That wasn't yet ancient for a middle-class Chinese man who could afford good medical care, but he would not be around forever.

I said, "Are we crazy, trying to do this ourselves?" She knew what I meant: liaising with Sam, managing the border, trying to keep the two worlds talking but the two sides separate, safe and intact.

Alison replied, "Which government would you trust not to screw this up? Not to try to exploit it?"

"None. But what's the alternative? You pass the job on to Laura? Kate's not interested in having kids. So do I pick some young mathematician at random to anoint as my successor?"

"Not at random, I'd hope."

"You want me to advertise? 'Must be proficient in number theory, familiar with Machiavelli, and own the complete boxed set of *The West Wing*?'"

She shrugged. "When the time comes, find someone competent you can trust. It's a balance: the fewer people who know, the better, so long as there are always enough of us that the knowledge doesn't risk getting lost completely."

"And this goes on generation after generation? Like some secret society? The Knights of the Arithmetic Inconsistency?"

"I'll work on the crest."

We needed a better plan, but this wasn't the time to argue about it. I said, "I'll contact this guy Campbell and let you know how it goes."

"Okay. Good luck." Her eyelids were starting to droop.

"Take care of yourself."

Alison managed an exhausted smile. "Are you saying that because you give a damn, or because you don't want to end up guarding the Grail all by yourself?"

"Both, of course."

"I have to fly to Wellington tomorrow."

Kate put down the pasta-laden fork she'd raised halfway to her lips and gave me a puzzled frown. "That's short notice."

"Yeah, it's a pain. It's for the Bank of New Zealand. I have to do something on-site with a secure machine, one they won't let anyone access over the net."

Her frown deepened. "When will you be back?"

"I'm not sure. It might not be until Monday. I can probably do most of the work tomorrow, but there are certain things they restrict to the weekends, when the branches are off-line. I don't know if it will come to that."

I hated lying to her, but I'd grown accustomed to it. When we'd met, just a year after Shanghai, I could still feel the scar on my arm where one of Industrial Algebra's hired thugs had tried to carve a data cache out of my body. At some point, as our relationship deepened, I'd made up my mind that however close we became, however much I trusted her, it would be safer for Kate if she never knew anything about the defect.

"They can't hire someone local?" she suggested. I didn't think she was suspicious, but she was definitely annoyed. She worked long hours at the hospital, and she only had every second weekend off; this would be one of them. We'd made no specific plans, but it was part of our routine to spend this time together.

I said, "I'm sure they could, but it'd be hard to find someone at short notice. And I can't tell them to shove it, or I'll lose the whole contract. It's one weekend, it's not the end of the world."

"No, it's not the end of the world." She finally lifted her fork again.

"Is the sauce okay?"

# FREE BONUS BOOK

With every elite Crosswords Club gift membership!



**Yours FREE**  
an \$8.95 value!

Use the coupon below to give a gift membership to **The Crosswords Club** or **The Uptown Puzzle Club** and you'll receive *The Crosswords Club Gold Edition* book **FREE!**

A great gift for yourself...or to give along with your gift subscription!

*64 pages packed with some of our most entertaining puzzles ever!*

## Choose your Crosswords Club Gift:

\***The Crosswords Club** - Six original high-quality themed crosswords per month.

\***The Uptown Puzzle Club** - Five completely new crosswords per month from the best puzzle constructors in the country.

**Order TOLL-FREE: 1-800-433-4386 (8am-7pm, EST)**

Mail to: **The Crosswords Club** • Dept. S, 6 Prowitt St. • Norwalk, CT 06855-1220

☐ **YES!** Enter a 1-year gift membership as indicated below and send me *The Crosswords Club Gold Edition Vol. 1* (XWGR) for **FREE!**

☐ *The Crosswords Club* (XWC)  
1 year/\$39.95

☐ *The Uptown Puzzle Club* (UTC)  
1 year/\$35.00

Send to \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ ZIP \_\_\_\_\_

Your name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ ZIP \_\_\_\_\_

Allow up to 4 weeks for delivery of first issue.

**Outside the USA:** Canada and Mexico add \$10 per membership per year. All other foreign countries add \$25 per membership per year.

Offer expires December 31, 2008. **97C-NZ3CLL**



"It's delicious, Bruno." Her tone made it clear that no amount of culinary effort would have been enough to compensate, so I might as well not have bothered.

I watched her eat with a strange knot growing in my stomach. Was this how spies felt, when they lied to their families about their work? But my own secret sounded more like something from a psychiatric ward. I was entrusted with the smooth operation of a treaty that I, and two friends, had struck with an invisible ghost world that coexisted with our own. The ghost world was far from hostile, but the treaty was the most important in human history, because either side had the power to annihilate the other so thoroughly that it would make a nuclear holocaust seem like a pinprick.

Victoria University was in a hilltop suburb overlooking Wellington. I caught a cable car, and arrived just in time for the Friday afternoon seminar. Contriving an invitation to deliver a paper here myself would have been difficult, but wangling permission to sit in as part of the audience was easy; although I hadn't been an academic for almost twenty years, my ancient Ph.D and a trickle of publications, however tenuously related to the topic of the seminar, were still enough to make me welcome.

I'd taken a gamble that Campbell would attend—the topic was peripheral to his own research, official or otherwise—so I was relieved to spot him in the audience, recognizing him from a photo on the faculty web site. I'd emailed him straight after I'd spoken to Alison, but his reply had been a polite brush-off: he acknowledged that the work I'd heard about on the grapevine owed something to the infamous search that Alison and I had launched, but he wasn't ready to make his own approach public.

I sat through an hour on "Monoids and Control Theory," trying to pay enough attention that I wouldn't make a fool of myself if the seminar organizer quizzed me later on why I'd been sufficiently attracted to the topic to interrupt my "sightseeing holiday" in order to attend. When the seminar ended, the audience split into two streams: one heading out of the building, the other moving into an adjoining room where refreshments were on offer. I saw Campbell making for the open air, and it was all I could do to contrive to get close enough to call out to him without making a spectacle.

"Dr. Campbell?"

He turned and scanned the room, probably expecting to see one of his students wanting to beg for an extension on an assignment. I raised a hand and approached him.

"Bruno Costanzo. I emailed you yesterday."

"Of course." Campbell was a thin, pale man in his early thirties. He shook my hand, but he was obviously taken aback. "You didn't mention that you were in Wellington."

I made a dismissive gesture. "I was going to, but then it seemed a bit presumptuous." I didn't spell it out, I just left him to conclude that I was as ambivalent about this whole inconsistency nonsense as he was.

If fate had brought us together, though, wouldn't it be absurd not to make the most of it?



"I was going to grab some of those famous scones," I said; the seminar announcement on the web had made big promises for them. "Are you busy?"

"Umm. Just paperwork. I suppose I can put it off."

As we made our way into the tea room, I waffled on airily about my holiday plans. I'd never actually been to New Zealand before, so I made it clear that most of my itinerary still lay in the future. Campbell was no more interested in the local geography and wildlife than I was; the more I enthused, the more distant his gaze became. Once it was apparent that he wasn't going to cross-examine me on the finer points of various hiking trails, I grabbed a buttered scone and switched subject abruptly.

"The thing is, I heard you'd devised a more efficient strategy for searching for a defect." I only just managed to stop myself from using the definite article; it was a while since I'd spoken about it as if it were still hypothetical. "You know the kind of computing power that Dr. Tierney and I had to scrounge up?"

"Of course. I was just an undergraduate, but I heard about the search."

"Were you one of our volunteers?" I'd checked the records, and he wasn't listed, but people had had the option of registering anonymously.

"No. The idea didn't really grab me, at the time." As he spoke, he seemed more discomfited than the failure to donate his own resources twelve years ago really warranted. I was beginning to suspect that he'd actually been one of the people who'd found the whole tongue-in-cheek conjecture that Alison and I had put forward to be unforgivably foolish. We had never asked to be taken seriously—and we had even put prominent links to all the worthy biomedical computing projects on our web page, so that people knew there were far better ways to spend their spare megaflops—but nonetheless, some mathematical/philosophical stuffed shirts had spluttered with rage at the sheer impertinence and naivety of our hypothesis. Before things turned serious, it was the entertainment value of that backlash that had made our efforts worthwhile.

"But now you've refined it somehow?" I prompted him, doing my best to let him see that I felt no resentment at the prospect of being outdone. In fact, the hypothesis itself had been Alison's, so even if there hadn't been more important things than my ego at stake, that really wasn't a factor. As for the search algorithm, I'd cobbled it together on a Sunday afternoon, as a joke, to call Alison's bluff. Instead, she'd called mine, and insisted that we release it to the world.

Campbell glanced around to see who was in earshot, but then perhaps it dawned on him that if the news of his ideas had already reached Sydney via Rome and Zürich, the battle to keep his reputation pristine in Wellington was probably lost.

He said, "What you and Dr. Tierney suggested was that random processes in the early universe might have included proofs of mutually contradictory theorems about the integers, the idea being that no computation to expose the inconsistency had yet had time to occur. Is that a fair summary?"

"Sure."

"One problem I have with that is, I don't see how it could lead to an in-

consistency that could be detected here and now. If the physical system A proved theorem A, and the physical system B proved theorem B, then you might have different regions of the universe obeying different axioms, but it's not as if there's some universal mathematics textbook hovering around outside spacetime, listing every theorem that's ever been proved, which our computers then consult in order to decide how to behave. The behavior of a classical system is determined by its own particular causal past. If we're the descendants of a patch of the universe that proved theorem A, our computers should be perfectly capable of *disproving* theorem B, whatever happened somewhere else fourteen billion years ago."

I nodded thoughtfully. "I can see what you're getting at." If you weren't going to accept full-blooded Platonism, in which there *was* a kind of ghostly textbook listing the eternal truths of mathematics, then a half-baked version where the book started out empty and was only filled in line-by-line as various theorems were tested seemed like the worst kind of compromise. In fact, when the far side had granted Yuen, Alison, and I insight into their mathematics for a few minutes in Shanghai, Yuen had proclaimed that the flow of mathematical information *did* obey Einstein locality; there was no universal book of truths, just records of the past sloshing around at lightspeed or less, intermingling and competing.

I could hardly tell Campbell, though, that not only did I know for a fact that a single computer could prove both a theorem and its negation, but depending on the order in which it attacked the calculations it could sometimes even shift the boundary where one set of axioms failed and the other took over.

I said, "And yet you still believe it's worth searching for an inconsistency?"

"I do," he conceded. "Though I came to the idea from a very different approach." He hesitated, then picked up a scone from the table beside us.

"One rock, one apple, one scone. We have a clear idea of what we mean by those phrases, though each one might encompass ten-to-the-ten-to-the-thirty-something slightly different configurations of matter. My 'one scone' is not the same as your 'one scone.'"

"Right."

"You know how banks count large quantities of cash?"

"By weighing them?" In fact there were several other cross-checks as well, but I could see where he was heading and I didn't want to distract him with nit-picking.

"Exactly. Suppose we tried to count scones the same way: weigh the batch, divide by some nominal value, then round to the nearest integer. The weight of any individual scone varies so much that you could easily end up with a version of arithmetic different from our own. If you 'counted' two separate batches, then merged them and 'counted' them together, there's no guarantee that the result would agree with the ordinary process of integer addition."

I said, "Clearly not. But digital computers don't run on scones, and they don't count bits by weighing them."

"Bear with me," Campbell replied. "It isn't a perfect analogy, but I'm not as crazy as I sound. Suppose, now, that *everything* we talk about as 'one

thing' has a vast number of possible configurations that we're either ignoring deliberately, or are literally incapable of distinguishing. Even something as simple as an electron prepared in a certain quantum state."

I said, "You're talking about hidden variables now?"

"Of a kind, yes. Do you know about Gerard 't Hooft's models for deterministic quantum mechanics?"

"Only vaguely," I admitted.

"He postulated fully deterministic degrees of freedom at the Planck scale, with quantum states corresponding to equivalence classes containing many different possible configurations. What's more, all the ordinary quantum states we prepare at an atomic level would be complex superpositions of those primordial states, which allows him to get around the Bell inequalities." I frowned slightly; I more or less got the picture, but I'd need to go away and read 't Hooft's papers.

Campbell said, "In a sense, the detailed physics isn't all that important, so long as you accept that 'one thing' might not *ever* be exactly the same as another 'one thing,' regardless of the kind of objects we're talking about. Given that supposition, physical processes that *seem* to be rigorously equivalent to various arithmetic operations can turn out not to be as reliable as you'd think. With scone-weighing, the flaws are obvious, but I'm talking about the potentially subtler results of misunderstanding the fundamental nature of matter."

"Hmm." Though it was unlikely that anyone else Campbell had confided in had taken these speculations as seriously as I did, not only did I not want to seem a pushover, I honestly had no idea whether anything he was saying bore the slightest connection to reality.

I said, "It's an interesting idea, but I still don't see how it could speed up the hunt for inconsistencies."

"I have a set of models," he said, "which are constrained by the need to agree with some of 't Hooft's ideas about the physics, and also by the need to make arithmetic *almost* consistent for a very large range of objects. From neutrinos to clusters of galaxies, basic arithmetic involving the kinds of numbers we might encounter in ordinary situations should work out in the usual way." He laughed. "I mean, that's the world we're living in, right?"

Some of us. "Yeah."

"But the interesting thing is, I can't make the physics work at all if the arithmetic doesn't run askew eventually—if there aren't trans-astronomical numbers where the physical representations no longer capture the arithmetic perfectly. And each of my models lets me predict, more or less, where those effects should begin to show up. By starting with the fundamental physical laws, I can deduce a sequence of calculations with large integers that ought to reveal an inconsistency, when performed with pretty much any computer."

"Taking you straight to the defect, with no need to search at all." I'd let the definite article slip out, but it hardly seemed to matter anymore.

"That's the theory." Campbell actually blushed slightly. "Well, when you say 'no search,' what's involved really is a much smaller search. There are still free parameters in my models; there are potentially billions of possibilities to test."

I grinned broadly, wondering if my expression looked as fake as it felt. "But no luck yet?"

"No." He was beginning to become self-conscious again, glancing around to see who might be listening.

Was he lying to me? Keeping his results secret until he could verify them a million more times, and then decide how best to explain them to incredulous colleagues and an uncomprehending world? Or had whatever he'd done that had lobbed a small grenade into Sam's universe somehow registered in Campbell's own computer as arithmetic as usual, betraying no evidence of the boundary he'd crossed? After all, the offending cluster of propositions had obeyed *our* axioms, so perhaps Campbell had managed to force them to do so without ever realizing that they hadn't in the past. His ideas were obviously close to the mark—and I could no longer believe this was just a coincidence—but he seemed to have no room in his theory for something that I knew for a fact: arithmetic wasn't merely inconsistent, it was *dynamic*. You could take its contradictions and slide them around like bumps in a carpet.

Campbell said, "Parts of the process aren't easy to automate; there's some manual work to be done setting up the search for each broad class of models. I've only been doing this in my spare time, so it could be a while before I get around to examining all the possibilities."

"I see." If all of his calculations so far had produced just one hit on the far side, it was conceivable that the rest would pass without incident. He would publish a negative result ruling out an obscure class of physical theories, and life would go on as normal on both sides of the inconsistency.

What kind of weapons inspector would I be, though, to put my faith in that rosy supposition?

Campbell was looking fidgety, as if his administrative obligations were beckoning. I said, "It'd be great to talk about this a bit more while we've got the chance. Are you busy tonight? I'm staying at a backpacker's down in the city, but maybe you could recommend a restaurant around here somewhere?"

He looked dubious for a moment, but then an instinctive sense of hospitality seemed to overcome his reservations. He said, "Let me check with my wife. We're not really into restaurants, but I was cooking tonight anyway, and you'd be welcome to join us."

Campbell's house was a fifteen minute walk from the campus; at my request, we detoured to a liquor store so I could buy a couple of bottles of wine to accompany the meal. As I entered the house, my hand lingered on the doorframe, depositing a small device that would assist me if I needed to make an uninvited entry in the future.

Campbell's wife, Bridget, was an organic chemist, who also taught at Victoria University. The conversation over dinner was all about department heads, budgets, and grant applications, and, despite having left academia long ago, I had no trouble relating sympathetically to the couple's gripes. My hosts ensured that my wine glass never stayed empty for long.

When we'd finished eating, Bridget excused herself to make a call to

her mother, who lived in a small town on the south island. Campbell led me into his study and switched on a laptop with fading keys that must have been twenty years old. Many households had a computer like this: the machine that could no longer run the latest trendy bloatware, but which still worked perfectly with its original OS.

Campbell turned his back to me as he typed his password, and I was careful not to be seen even trying to look. Then he opened some C++ files in an editor, and scrolled over parts of his search algorithm.

I felt giddy, and it wasn't the wine; I'd filled my stomach with an over-the-counter sobriety aid that turned ethanol into glucose and water faster than any human being could imbibe it. I fervently hoped that Industrial Algebra really had given up their pursuit; if I could get this close to Campbell's secrets in half a day, IA could be playing the stock market with alternative arithmetic before the month was out, and peddling inconsistency weapons to the Pentagon soon after.

I did not have a photographic memory, and Campbell was just showing me fragments anyway. I didn't think he was deliberately taunting me; he just wanted me to see that he had something concrete, that all his claims about Planck scale physics and directed search strategies had been more than hot air.

I said, "Wait! What's that?" He stopped hitting the PAGE DOWN key, and I pointed at a list of variable declarations in the middle of the screen:

```
long int i1, i2, i3;
dark d1, d2, d3;
```

A "long int" was a long integer, a quantity represented by twice as many bits as usual. On this vintage machine, that was likely to be a total of just sixty-four bits. "What the fuck is a 'dark'?" I demanded. It wasn't how I'd normally speak to someone I'd only just met, but then, I wasn't meant to be sober.

Campbell laughed. "A dark integer. It's a type I defined. It holds four thousand and ninety-six bits."

"But why the name?"

"Dark matter, dark energy . . . dark integers. They're all around us, but we don't usually see them, because they don't quite play by the rules."

Hairs rose on the back of my neck. I could not have described the infrastructure of Sam's world more concisely myself.

Campbell shut down the laptop. I'd been looking for an opportunity to handle the machine, however briefly, without arousing his suspicion, but that clearly wasn't going to happen, so as we walked out of the study I went for plan B.

"I'm feeling kind of . . ." I sat down abruptly on the floor of the hallway. After a moment, I fished my phone out of my pocket and held it up to him. "Would you mind calling me a taxi?"

"Yeah, sure." He accepted the phone, and I cradled my head in my arms. Before he could dial the number, I started moaning softly. There was a long pause; he was probably weighing up the embarrassment factor of various alternatives.

Finally he said, "You can sleep here on the couch if you like." I felt a genuine pang of sympathy for him; if some clown I barely knew had

pulled a stunt like this on me, I would at least have made him promise to foot the cleaning bills if he threw up in the middle of the night.

In the middle of the night, I did make a trip to the bathroom, but I kept the sound effects restrained. Halfway through, I walked quietly to the study, crossed the room in the dark, and slapped a thin, transparent patch over the adhesive label that a service company had placed on the outside of the laptop years before. My addition would be invisible to the naked eye, and it would take a scalpel to prise it off. The relay that would communicate with the patch was larger, about the size of a coat button; I stuck it behind a bookshelf. Unless Campbell was planning to paint the room or put in new carpet, it would probably remain undetected for a couple of years, and I'd already prepaid a two year account with a local wireless internet provider.

I woke not long after dawn, but this un-Bacchanalian early rising was no risk to my cover; Campbell had left the curtains open so the full force of the morning sun struck me in the face, a result that was almost certainly deliberate. I tiptoed around the house for ten minutes or so, not wanting to seem too organized if anyone was listening, then left a scrawled note of thanks and apology on the coffee table by the couch, before letting myself out and heading for the cable car stop.

Down in the city, I sat in a café opposite the backpacker's hostel and connected to the relay, which in turn had established a successful link with the polymer circuitry of the laptop patch. When noon came and went without Campbell logging on, I sent a message to Kate telling her that I was stuck in the bank for at least another day.

I passed the time browsing the news feeds and buying overpriced snacks; half of the café's other patrons were doing the same. Finally, just after three o'clock, Campbell started up the laptop.

The patch couldn't read his disk drive, but it could pick up currents flowing to and from the keyboard and the display, allowing it to deduce everything he typed and everything he saw. Capturing his password was easy. Better yet, once he was logged in he set about editing one of his files, extending his search program to a new class of models. As he scrolled back and forth, it wasn't long before the patch's screen shots encompassed the entire contents of the file he was working on.

He labored for more than two hours, debugging what he'd written, then set the program running. This creaky old twentieth century machine, which predated the whole internet-wide search for the defect, had already scored one direct hit on the far side; I just hoped this new class of models were all incompatible with the successful ones from a few days before.

Shortly afterward, the IR sensor in the patch told me that Campbell had left the room. The patch could induce currents in the keyboard connection; I could type into the machine as if I was right there. I started a new process window. The laptop wasn't connected to the internet at all, except through my spyware, but it took me only fifteen minutes to display and record everything there was to see: a few library and header files that the main program depended on, and the data logs listing all of the searches so far. It would not have been hard to hack into the operating



system and make provisions to corrupt any future searches, but I decided to wait until I had a better grasp of the whole situation. Even once I was back in Sydney, I'd be able to eavesdrop whenever the laptop was in use, and intervene whenever it was left unattended. I'd only stayed in Wellington in case there'd been a need to return to Campbell's house in person.

When evening fell and I found myself with nothing urgent left to do, I didn't call Kate; it seemed wiser to let her assume that I was slaving away in a windowless computer room. I left the café and lay on my bed in the hostel. The dormitory was deserted; everyone else was out on the town.

I called Alison in Zürich and brought her up to date. In the background, I could hear her husband, Philippe, trying to comfort Laura in another room, calmly talking baby-talk in French while his daughter wailed her head off.

Alison was intrigued. "Campbell's theory can't be perfect, but it must be close. Maybe we'll be able to find a way to make it fit in with the dynamics we've seen." In the ten years since we'd stumbled on the defect, all our work on it had remained frustratingly empirical: running calculations and observing their effects. We'd never come close to finding any deep underlying principles.

"Do you think Sam knows all this?" she asked.

"I have no idea. If he did, I doubt he'd admit it." Though it was Sam who had given us a taste of far-side mathematics in Shanghai, that had really just been a clip over the ear to let us know that what we were trying to wipe out with Luminous was a civilization, not a wasteland. After that near-disastrous first encounter, he had worked to establish communications with us, learning our languages and happily listening to the accounts we'd volunteered of our world, but he had not been equally forthcoming in return. We knew next to nothing about far-side physics, astronomy, biology, history, or culture. That there were living beings occupying the same space as the Earth suggested that the two universes were intimately coupled somehow, in spite of their mutual invisibility. But Sam had hinted that life was much more common on his side of the border than ours; when I'd told him that we seemed to be alone, at least in the solar system, and were surrounded by light-years of sterile vacuum, he'd taken to referring to our side as "Sparseland."

Alison said, "Either way, I think we should keep it to ourselves. The treaty says we should do everything in our power to deal with any breach of territory of which the other side informs us. We're doing that. But we're not obliged to disclose the details of Campbell's activities."

"That's true." I wasn't entirely happy with her suggestion, though. In spite of the attitude Sam and his colleagues had taken—in which they assumed that anything they told us might be exploited, might make them more vulnerable—a part of me had always wondered if there was some gesture of good faith we could make, some way to build trust. Since talking to Campbell, in the back of my mind I'd been building up a faint hope that his discovery might lead to an opportunity to prove, once and for all, that our intentions were honorable.

Alison read my mood. She said, "Bruno, they've given us *nothing*. Shanghai excuses a certain amount of caution, but we also know from Shanghai that they could brush Luminous aside like a gnat. They have enough computing power to crush us in an instant, and they still cling to every strategic advantage they can get. Not to do the same ourselves would just be stupid and irresponsible."

"So you want us to hold on to this secret weapon?" I was beginning to develop a piercing headache. My usual way of dealing with the surreal responsibility that had fallen on the three of us was to pretend that it didn't exist; having to think about it constantly for three days straight meant more tension than I'd faced for a decade. "Is that what it's come down to? Our own version of the Cold War? Why don't you just march into NATO headquarters on Monday and hand over everything we know?"

Alison said dryly, "Switzerland isn't a member of NATO. The government here would probably charge me with treason."

I didn't want to fight with her. "We should talk about this later. We don't even know exactly what we've got. I need to go through Campbell's files and confirm whether he really did what we think he did."

"Okay."

"I'll call you from Sydney."

It took me a while to make sense of everything I'd stolen from Campbell, but eventually I was able to determine which calculations he'd performed on each occasion recorded in his log files. Then I compared the propositions that he'd tested with a rough, static map of the defect; since the event Sam had reported had been deep within the far side, there was no need to take account of the small fluctuations that the border underwent over time.

If my analysis was correct, late on Wednesday night Campbell's calculations had landed in the middle of far-side mathematics. He'd been telling me the truth, though; he'd found nothing out of the ordinary there. Instead, the thing he had been seeking had melted away before his gaze.

In all the calculations Alison and I had done, only at the border had we been able to force propositions to change their allegiance and obey our axioms. It was as if Campbell had dived in from some higher dimension, carrying a hosepipe that sprayed everything with the arithmetic we knew and loved.

For Sam and his colleagues, this was the equivalent of a suitcase nuke appearing out of nowhere, as opposed to the ICBMs they knew how to track and annihilate. Now Alison wanted us to tell them, "Trust us, we've dealt with it," without showing them the weapon itself, without letting them see how it worked, without giving them a chance to devise new defenses against it.

She wanted us to have something up our sleeves, in case the hawks took over the far side, and decided that Sparseland was a ghost world whose lingering, baleful presence they could do without.

Drunken Saturday-night revelers began returning to the hostel, singing off-key and puking enthusiastically. Maybe this was poetic justice for my own faux-inebriation; if so, I was being repaid a thousandfold. I started wishing I'd shelled out for classier accommodation, but since there was no



employer picking up my expenses, it was going to be hard enough dealing with my lie to Kate without spending even more on the trip.

Forget the arithmetic of scones; I knew how to make digital currency reproduce like the marching brooms of the sorcerer's apprentice. It might even have been possible to milk the benefits without Sam noticing; I could try to hide my far-sider trading behind the manipulations of the border we used routinely to exchange messages.

I had no idea how to contain the side-effects, though. I had no idea what else such meddling would disrupt, how many people I might kill or maim in the process.

I buried my head beneath the pillows and tried to find a way to get to sleep through the noise. I ended up calculating powers of seven, a trick I hadn't used since childhood. I'd never been a prodigy at mental arithmetic, and the concentration required to push on past the easy cases drained me far faster than any physical labor. *Two hundred and eighty-two million, four hundred and seventy-five thousand, two hundred and forty-nine.* The numbers rose into the stratosphere like bean stalks, until they grew too high and tore themselves apart, leaving behind a cloud of digits drifting through my skull like black confetti.

"The problem is under control," I told Sam. "I've located the source, and I've taken steps to prevent a recurrence."

"Are you sure of that?" As he spoke, the three-holed torus on the screen twisted restlessly. In fact I'd chosen the icon myself, and its appearance wasn't influenced by Sam at all, but it was impossible not to project emotions onto its writhing.

I said, "I'm certain that I know who was responsible for the incursion on Wednesday. It was done without malice; in fact the person who did it doesn't even realize that he crossed the border. I've modified the operating system on his computer so that it won't allow him to do the same thing again; if he tries, it will simply give him the same answers as before, but this time the calculations won't actually be performed."

"That's good to hear," Sam said. "Can you describe these calculations?"

I was as invisible to Sam as he was to me, but out of habit I tried to keep my face composed. "I don't see that as part of our agreement," I replied.

Sam was silent for a few seconds. "That's true, Bruno. But it might provide us with a greater sense of reassurance if we knew what caused the breach in the first place."

I said, "I understand. But we've made a decision." We was Alison and I; Yuen was still in hospital, in no state to do anything. Alison and I, speaking for the world.

"I'll put your position to my colleagues," he said. "We're not your enemy, Bruno." His tone sounded regretful, and these nuances *were* under his control.

"I know that," I replied. "Nor are we yours. Yet you've chosen to keep most of the details of your world from us. We don't view that as evidence of hostility, so you have no grounds to complain if we keep a few secrets of our own."

"I'll contact you again soon," Sam said.

The messenger window closed. I emailed an encrypted transcript to Alison, then slumped across my desk. My head was throbbing, but the encounter really hadn't gone too badly. Of course Sam and his colleagues would have preferred to know everything; of course they were going to be disappointed and reproachful. That didn't mean they were going to abandon the benign policies of the last decade. The important thing was that my assurance would prove to be reliable: the incursion would not be repeated.

I had work to do, the kind that paid bills. Somehow I summoned up the discipline to push the whole subject aside and get on with a report on stochastic methods for resolving distributed programming bottlenecks that I was supposed to be writing for a company in Singapore.

Four hours later, when the doorbell rang, I'd left my desk to raid the kitchen. I didn't bother checking the doorstep camera; I just walked down the hall and opened the door.

Campbell said, "How are you, Bruno?"

"I'm fine. Why didn't you tell me you were coming to Sydney?"

"Aren't you going to ask me how I found your house?"

"How?"

He held up his phone. There was a text message from me, or at least from my phone; it had SMS'd its GPS coordinates to him.

"Not bad," I conceded.

"I believe they recently added 'corrupting communications devices' to the list of terrorism-related offenses in Australia. You could probably get me thrown into solitary confinement in a maximum security prison."

"Only if you know at least ten words of Arabic."

"Actually I spent a month in Egypt once, so anything's possible. But I don't think you really want to go to the police."

I said, "Why don't you come in?"

As I showed him to the living room my mind was racing. Maybe he'd found the relay behind the bookshelf, but surely not before I'd left his house. Had he managed to get a virus into my phone remotely? I'd thought my security was better than that.

Campbell said, "I'd like you to explain why you bugged my computer."

"I'm growing increasingly unsure of that myself. The correct answer might be that you wanted me to."

He snorted. "That's rich! I admit that I deliberately allowed a rumor to start about my work, because I was curious as to why you and Alison Tierney called off your search. I wanted to see if you'd come sniffing around. As you did. But that was hardly an invitation to steal all my work."

"What was the point of the whole exercise for you, then, if not a way of stealing something from Alison and me?"

"You can hardly compare the two. I just wanted to confirm my suspicion that you actually found something."

"And you believe that you've confirmed that?"

He shook his head, but it was with amusement, not denial. I said, "Why are you here? Do you think I'm going to publish your crackpot theory as

my own? I'm too old to get the Fields Medal, but maybe you think it's Nobel material."

"Oh, I don't think you're interested in fame. As I said, I think you beat me to the prize a long time ago."

I rose to my feet abruptly; I could feel myself scowling, my fists tightening. "So what's the bottom line? You want to press charges against me for the laptop? Go ahead. We can each get a fine *in absentia*."

Campbell said, "I want to know exactly what was so important to you that you crossed the Tasman, lied your way into my house, abused my hospitality, and stole my files. I don't think it was simply curiosity, or jealousy. I think you found something ten years ago, and now you're afraid my work is going to put it at risk."

I sat down again. The rush of adrenaline I'd experienced at being cornered had dissipated. I could almost hear Alison whispering in my ear, "Either you kill him, Bruno, or you recruit him." I had no intention of killing anyone, but I wasn't yet certain that these were the only two choices.

I said, "And if I tell you to mind your own business?"

He shrugged. "Then I'll work harder. I know you've screwed that laptop, and maybe the other computers in my house, but I'm not so broke that I can't get a new machine."

Which would be a hundred times faster. He'd re-run every search, probably with wider parameter ranges. The suitcase nuke from Sparseland that had started this whole mess would detonate again, and for all I knew it could be ten times, a hundred times, more powerful.

I said, "Have you ever wanted to join a secret society?"

Campbell gave an incredulous laugh. "No!"

"Neither did I. Too bad."

I told him everything. The discovery of the defect. Industrial Algebra's pursuit of the result. The epiphany in Shanghai. Sam establishing contact. The treaty, the ten quiet years. Then the sudden jolt of his own work, and the still-unfolding consequences.

Campbell was clearly shaken, but despite the fact that I'd confirmed his original suspicion he wasn't ready to take my word for the whole story.

I knew better than to invite him into my office for a demonstration; faking it there would have been trivial. We walked to the local shopping center, and I handed him two hundred dollars to buy a new notebook. I told him the kind of software he'd need to download, without limiting his choice to any particular package. Then I gave him some further instructions. Within half an hour, he had seen the defect for himself, and nudged the border a short distance in each direction.

We were sitting in the food hall, surrounded by boisterous teenagers who'd just got out from school. Campbell was looking at me as if I'd seized a toy machine gun from his hands, transformed it into solid metal, then bashed him over the head with it.

I said, "Cheer up. There was no war of the worlds after Shanghai; I think we're going to survive this, too." After all these years, the chance to share the burden with someone new was actually making me feel much more optimistic.

"The defect is *dynamic*," he muttered. "That changes everything."

"You don't say."

Campbell scowled. "I don't just mean the politics, the dangers. I'm talking about the underlying physical model."

"Yeah?" I hadn't come close to examining that issue seriously; it had been enough of a struggle coming to terms with his original calculations.

"All along, I've assumed that there were exact symmetries in the Planck scale physics that accounted for a stable boundary between macroscopic arithmetics. It was an artificial restriction, but I took it for granted, because anything else seemed . . ."

"Unbelievable?"

"Yes." He blinked and looked away, surveying the crowd of diners as if he had no idea how he'd ended up among them. "I'm flying back in a few hours."

"Does Bridget know why you came?"

"Not exactly."

I said, "No one else can know what I've told you. Not yet. The risks are too great, everything's too fluid."

"Yeah." He met my gaze. He wasn't just humoring me; he understood what people like IA might do.

"In the long term," I said, "we're going to have to find a way to make this safe. To make everyone safe." I'd never quite articulated that goal before, but I was only just beginning to absorb the ramifications of Campbell's insights.

"How?" he wondered. "Do we want to build a wall, or do we want to tear one down?"

"I don't know. The first thing we need is a better map, a better feel for the whole territory."

He'd hired a car at the airport in order to drive here and confront me; it was parked in a side street close to my house. I walked him to it.

We shook hands before parting. I said, "Welcome to the reluctant cabal."

Campbell winced. "Let's find a way to change it from reluctant to redundant."

In the weeks that followed, Campbell worked on refinements to his theory, emailing Alison and me every few days. Alison had taken my unilateral decision to recruit Campbell with much more equanimity than I'd expected. "Better to have him inside the tent," was all she'd said.

This proved to be an understatement. While the two of us soon caught up with him on all the technicalities, it was clear that his intuition on the subject, hard-won over many years of trial and error, was the key to his spectacular progress now. Merely stealing his notes and his algorithms would never have brought us so far.

Gradually, the dynamic version of the theory took shape. As far as macroscopic objects were concerned—and in this context, "macroscopic" stretched all the way down to the quantum states of subatomic particles—all traces of Platonic mathematics were banished. A "proof" concerning the integers was just a class of physical processes, and the result of that proof was neither read from, nor written to, any universal book of

truths. Rather, the agreement between proofs was simply a strong, but imperfect, correlation between the different processes that counted as proofs of the same thing. Those correlations arose from the way that the primordial states of Planck-scale physics were carved up—imperfectly—into subsystems that appeared to be distinct objects.

The truths of mathematics *appeared* to be enduring and universal because they persisted with great efficiency within the states of matter and space-time. But there was a built-in flaw in the whole idealization of distinct objects, and the point where the concept finally cracked open was the defect Alison and I had found in our volunteers' data, which appeared to any macroscopic test as the border between contradictory mathematical systems.

We'd derived a crude empirical rule which said that the border shifted when a proposition's neighbors outvoted it. If you managed to prove that  $x+1=y+1$  and  $x-1=y-1$ , then  $x=y$  became a sitting duck, even if it hadn't been true before. The consequences of Campbell's search had shown that the reality was more complex, and in his new model, the old border rule became an approximation for a more subtle process, anchored in the dynamics of primordial states that knew nothing of the arithmetic of electrons and apples. The near-side arithmetic Campbell had blasted into the far side hadn't got there by besieging the target with syllogisms; it had got there because he'd gone straight for a far deeper failure in the whole idea of "integers" than Alison and I had ever dreamed of.

Had Sam dreamed of it? I waited for his next contact, but as the weeks passed he remained silent, and the last thing I felt like doing was calling him myself. I had enough people to lie to without adding him to the list.

Kate asked me how work was going, and I waffled about the details of the three uninspiring contracts I'd started recently. When I stopped talking, she looked at me as if I'd just stammered my way through an unconvincing denial of some unspoken crime. I wondered how my mixture of concealed elation and fear was coming across to her. Was that how the most passionate, conflicted adulterer would appear? I didn't actually reach the brink of confession, but I pictured myself approaching it. I had less reason now to think that the secret would bring her harm than when I'd first made my decision to keep her in the dark. But then, what if I told her everything, and the next day Campbell was kidnapped and tortured? If we were all being watched, and the people doing it were good at their jobs, we'd only know about it when it was too late.

Campbell's emails dropped off for a while, and I assumed he'd hit a roadblock. Sam had offered no further complaints. Perhaps, I thought, this was the new *status quo*, the start of another quiet decade. I could live with that.

Then Campbell flung his second grenade. He reached me by IM and said, "I've started making maps."

"Of the defect?" I replied.

"Of the planets."

I stared at his image, uncomprehending.

"The far-side planets," he said. "*The physical worlds.*"

He'd bought himself some time on a geographically scattered set of

processor clusters. He was no longer repeating his dangerous incursions, of course, but by playing around in the natural ebb and flow at the border, he'd made some extraordinary discoveries.

Alison and I had realized long ago that random "proofs" in the natural world would influence what happened at the border, but Campbell's theory made that notion more precise. By looking at the exact timing of changes to propositions at the border, measured in a dozen different computers world-wide, he had set up a kind of . . . radar? CT machine? Whatever you called it, it allowed him to deduce the locations where the relevant natural processes were occurring, and his model allowed him to distinguish between both near-side and far-side processes, and processes in matter and those in vacuum. He could measure the density of far-side matter out to a distance of several light-hours, and crudely image nearby planets.

"Not just on the far side," he said. "I validated the technique by imaging our own planets." He sent me a data log, with comparisons to an on-line almanac. For Jupiter, the farthest of the planets he'd located, the positions were out by as much as a hundred thousand kilometers; not exactly GPS quality, but that was a bit like complaining that your abacus couldn't tell north from north-west.

"Maybe that's how Sam found us in Shanghai?" I wondered. "The same kind of thing, only more refined?"

Campbell said, "Possibly."

"So what about the far-side planets?"

"Well, here's the first interesting thing. None of the planets coincide with ours. Nor does their sun with our sun." He sent me an image of the far-side system, one star and its six planets, overlaid on our own.

"But Sam's time lags," I protested, "when we communicate—"

"Make no sense if he's too far away. Exactly. So he is *not* living on any of these planets, and he's not even in a natural orbit around their star. He's in powered flight, moving with the Earth. Which suggests to me that they've known about us for much longer than Shanghai."

"Known about us," I said, "but maybe they still didn't anticipate anything like Shanghai." When we'd set Luminous on to the task of eliminating the defect—not knowing that we were threatening anyone—it had taken several minutes before the far side had responded. Computers on board a spacecraft moving with the Earth would have detected the assault quickly, but it might have taken the recruitment of larger, planet-bound machines, minutes away at lightspeed, to repel it.

Until I'd encountered Campbell's theories, my working assumption had been that Sam's world was like a hidden message encoded in the Earth, with the different arithmetic giving different meanings to all the air, water, and rock around us. But their matter was not bound to our matter; they didn't need our specks of dust or molecules of air to represent the dark integers. The two worlds split apart at a much lower level; vacuum could be rock, and rock, vacuum.

I said, "So do you want the Nobel for physics, or peace?"

Campbell smiled modestly. "Can I hold out for both?"

"That's the answer I was looking for." I couldn't get the stupid Cold War metaphors out of my brain: what would Sam's hotheaded colleagues



think, if they knew that we were now flying spy planes over their territory? Saying "screw them, they were doing it first!" might have been a fair response, but it was not a particularly helpful one.

I said, "We're never going to match their Sputnik, unless you happen to know a trustworthy billionaire who wants to help us launch a space probe on a very strange trajectory. Everything we want to do has to work from Earth."

"I'll tear up my letter to Richard Branson then, shall I?"

I stared at the map of the far-side solar system. "There must be some relative motion between their star and ours. It can't have been this close for all that long."

"I don't have enough accuracy in my measurements to make a meaningful estimate of the velocity," Campbell said. "But I've done some crude estimates of the distances between their stars, and it's much smaller than ours. So it's not all that unlikely to find *some* star this close to us, even if it's unlikely to be the same one that was close a thousand years ago. Then again, there might be a selection effect at work here: the whole reason Sam's civilization managed to notice us at all was *because* we weren't shooting past them at a substantial fraction of lightspeed."

"Okay. So *maybe* this is their home system, but it could just as easily be an expeditionary base for a team that's been following our sun for thousands of years."

"Yes."

I said, "Where do we go with this?"

"I can't increase the resolution much," Campbell replied, "without buying time on a lot more clusters." It wasn't that he needed much processing power for the calculations, but there were minimum prices to be paid to do anything at all, and what would give us clearer pictures would be more computers, not more time on each one.

I said, "We can't risk asking for volunteers, like the old days. We'd have to lie about what the download was for, and you can be certain that somebody would reverse-engineer it and catch us out."

"Absolutely."

I slept on the problem, then woke with an idea at four A.M. and went to my office, trying to flesh out the details before Campbell responded to my email. He was bleary-eyed when the messenger window opened; it was later in Wellington than in Sydney, but it looked as if he'd had as little sleep as I had.

I said, "We use the internet."

"I thought we decided that was too risky."

"Not screensavers for volunteers; I'm talking about *the internet itself*. We work out a way to do the calculations using nothing but data packets and network routers. We bounce traffic all around the world, and we get the geographical resolution for free."

"You've got to be joking, Bruno—"

"Why? *Any* computing circuit can be built by stringing together enough NAND gates; you think we can't leverage packet switching into a NAND gate? But that's just the proof that it's possible; I expect we can actually make it a thousand times tighter."



Campbell said, "I'm going to get some aspirin and come back."

We roped in Alison to help, but it still took us six weeks to get a workable design, and another month to get it functioning. We ended up exploiting authentication and error-correction protocols built into the internet at several different layers; the heterogeneous approach not only helped us do all the calculations we needed, but made our gentle siphoning of computing power less likely to be detected and mistaken for anything malicious. In fact we were "stealing" far less from the routers and servers of the net than if we'd sat down for a hardcore 3D multiplayer gaming session, but security systems had their own ideas about what constituted fair use and what was suspicious. The most important thing was not the size of the burden we imposed, but the signature of our behavior.

Our new globe-spanning arithmetical telescope generated pictures far sharper than before, with kilometer-scale resolution out to a billion kilometers. This gave us crude relief-maps of the far-side planets, revealing mountains on four of them, and what might have been oceans on two of those four. If there were any artificial structures, they were either too small to see, or too subtle in their artificiality.

The relative motion of our sun and the star these planets orbited turned out to be about six kilometers per second. In the decade since Shanghai, the two solar systems had changed their relative location by about two billion kilometers. Wherever the computers were now that had fought with Luminous to control the border, they certainly hadn't been on any of these planets at the time. Perhaps there were two ships, with one following the Earth, and the other, heavier one saving fuel by merely following the sun.

Yuen had finally recovered his health, and the full cabal held an IM-conference to discuss these results.

"We should be showing these to geologists, xenobiologists . . . everyone," Yuen lamented. He wasn't making a serious proposal, but I shared his sense of frustration.

Alison said, "What I regret most is that we can't rub Sam's face in these pictures, just to show him that we're not as stupid as he thinks."

"I imagine his own pictures are sharper," Campbell replied.

"Which is as you'd expect," Alison retorted, "given a head start of a few centuries. If they're so brilliant on the far side, why do they need *us* to tell them what you did to jump the border?"

"They might have guessed precisely what I did," he countered, "but they could still be seeking confirmation. Perhaps what they really want is to rule out the possibility that we've discovered something different, something they've never even thought of."

I gazed at the false colors of one contoured sphere, imagining gray-blue oceans, snow-topped mountains with alien forests, strange cities, wondrous machines. Even if that was pure fantasy and this temporary neighbor was barren, there had to be a living homeworld from which the ships that pursued us had been launched.

After Shanghai, Sam and his colleagues had chosen to keep us in the dark for ten years, but it had been our own decision to cement the mis-

trust by holding on to the secret of our accidental weapon. If they'd already guessed its nature, then they might already have found a defense against it, in which case our silence bought us no advantage at all to compensate for the suspicion it engendered.

*If that assumption was wrong, though?* Then handing over the details of Campbell's work could be just what the far-side hawks were waiting for, before raising their shields and crushing us.

I said, "We need to make some plans. I want to stay hopeful, I want to keep looking for the best way forward, but we need to be prepared for the worst."

Transforming that suggestion into something concrete required far more work than I'd imagined; it was three months before the pieces started coming together. When I finally shifted my gaze back to the everyday world, I decided that I'd earned a break. Kate had a free weekend approaching; I suggested a day in the Blue Mountains.

Her initial response was sarcastic, but when I persisted she softened a little, and finally agreed.

On the drive out of the city, the chill that had developed between us slowly began to thaw. We played JJJ on the car radio—laughing with disbelief as we realized that today's cutting-edge music consisted mostly of cover versions and re-samplings of songs that had been hits when we were in our twenties—and resurrected old running jokes from the time when we'd first met.

As we wound our way into the mountains, though, it proved impossible simply to turn back the clock. Kate said, "Whoever you've been working for these last few months, can you put them on your blacklist?"

I laughed. "That will scare them." I switched to my best Brando voice. "You're on Bruno Costanzo's blacklist. You'll never run distributed software efficiently in this town again."

She said, "I'm serious. I don't know what's so stressful about the work, or the people, but it's really screwing you up."

I could have made her a promise, but it would have been hard enough to sound sincere as I spoke the words, let alone live up to them. I said, "Beggars can't be choosers."

She shook her head, her mouth tensed in frustration. "If you really want a heart attack, fine. But don't pretend that it's all about money. We're never that broke, and we're never that rich. Unless it's all going into your account in Zürich."

It took me a few seconds to convince myself that this was nothing more than a throwaway reference to Swiss banks. Kate knew about Alison, knew that we'd once been close, knew that we still kept in touch. She had plenty of male friends from her own past, and they all lived in Sydney; for more than five years, Alison and I hadn't even set foot on the same continent.

We parked the car, then walked along a scenic trail for an hour, mostly in silence. We found a spot by a stream, with tiered rocks smoothed by some ancient river, and ate the lunch I'd packed.

Looking out into the blue haze of the densely wooded valley below, I

couldn't keep the image of the crowded skies of the far side from my mind. A dazzling richness surrounded us: alien worlds, alien life, alien culture. There had to be a way to end our mutual suspicion, and work toward a genuine exchange of knowledge.

As we started back toward the car, I turned to Kate. "I know I've neglected you," I said. "I've been through a rough patch, but everything's going to change. I'm going to make things right."

I was prepared for a withering rebuff, but for a long time she was silent. Then she nodded slightly and said, "Okay."

As she reached across and took my hand, my wrist began vibrating. I'd buckled to the pressure and bought a watch that shackled me to the net twenty-four hours a day.

I freed my hand from Kate's and lifted the watch to my face. The bandwidth reaching me out in the sticks wasn't enough for video, but a stored snapshot of Alison appeared on the screen.

"This is for *emergencies only*," I snarled.

"Check out a news feed," she replied. The acoustics were focused on my ears; Kate would get nothing but the bad-hearing-aid-at-a-party impression that made so many people want to punch their fellow commuters on trains.

"Why don't you just summarize whatever it is I'm meant to have noticed?"

Financial computing systems were going haywire, to an extent that was already being described as terrorism. Most trading was closed for the weekend, but some experts were predicting the crash of the century, come Monday.

I wondered if the cabal itself was to blame; if we'd inadvertently corrupted the whole internet by coupling its behavior to the defect. That was nonsense, though. Half the transactions being garbled were taking place on secure, interbank networks that shared no hardware with our global computer. This was coming from the far side.

"Have you contacted Sam?" I asked her.

"I can't raise him."

"Where are you going?" Kate shouted angrily. I'd unconsciously broken into a jog; I wanted to get back to the car, back to the city, back to my office.

I stopped and turned to her. "Run with me? Please? This is important."

"You're joking! I've spent half a day hiking, I'm not running anywhere!"

I hesitated, fantasizing for a moment that I could sit beneath a gum tree and orchestrate everything with my Dick Tracy watch before its battery went flat.

I said, "You'd better call a taxi when you get to the road."

"You're taking the car?" Kate stared at me, incredulous. "You piece of shit!"

"I'm sorry." I tossed my backpack on the ground and started sprinting.

"We need to deploy," I told Alison.

"I know," she said. "We've already started."

It was the right decision, but hearing it still loosened my bowels far more than the realization that the far side were attacking us. Whatever

their motives, at least they were unlikely to do more harm than they intended. I was much less confident about our own abilities.

"Keep trying to reach Sam," I insisted. "This is a thousand times more useful if they know about it."

Alison said, "I guess this isn't the time for *Dr. Strangelove* jokes."

Over the last three months, we'd worked out a way to augment our internet "telescope" software to launch a barrage of Campbell-style attacks on far-side propositions if it saw our own mathematics being encroached upon. The software couldn't protect the whole border, but there were millions of individual trigger points, forming a randomly shifting minefield. The plan had been to buy ourselves some security, without ever reaching the point of actual retaliation. We'd been waiting to complete a final round of tests before unleashing this version live on the net, but it would only take a matter of minutes to get it up and running.

"Anything being hit besides financials?" I asked.

"Not that I'm picking up."

If the far side was deliberately targeting the markets, that was infinitely preferable to the alternative: that financial systems had simply been the most fragile objects in the path of a much broader assault. Most modern engineering and aeronautical systems were more interested in resorting to fall-backs than agonizing over their failures. A bank's computer might declare itself irretrievably compromised and shut down completely, the instant certain totals failed to reconcile; those in a chemical plant or an airliner would be designed to fail more gracefully, trying simpler alternatives and bringing all available humans into the loop.

I said, "Yuen and Tim—?"

"Both on board," Alison confirmed. "Monitoring the deployment, ready to tweak the software if necessary."

"Good. You really won't need me at all, then, will you?"

Alison's reply dissolved into digital noise, and the connection cut out. I refused to read anything sinister into that; given my location, I was lucky to have any coverage at all. I ran faster, trying not to think about the time in Shanghai when Sam had taken a mathematical scalpel to all of our brains. Luminous had been screaming out our position like a beacon; we would not be so easy to locate this time. Still, with a cruder approach, the hawks could take a hatchet to everyone's head. *Would they go that far?* Only if this was meant as much more than a threat, much more than intimidation to make us hand over Campbell's algorithm. Only if this was the end game: no warning, no negotiations, just Sparseland wiped off the map forever.

Fifteen minutes after Alison's call, I reached the car. Apart from the entertainment console it didn't contain a single microchip; I remembered the salesman laughing when I'd queried that twice. "What are you afraid of? Y3K?" The engine started immediately.

I had an ancient secondhand laptop in the trunk; I put it beside me on the passenger seat and started booting it up while I drove out on to the access road, heading for the highway. Alison and I had worked for a fortnight on a stripped-down operating system, as simple and robust as possible, to run on these old computers; if the far side kept reaching down

from the arithmetic stratosphere, these would be like concrete bunkers compared to the glass skyscrapers of more modern machines. The four of us would also be running different versions of the OS, on CPUs with different instruction sets; our bunkers were scattered mathematically as well as geographically.

As I drove on to the highway, my watch stuttered back to life. Alison said, "Bruno? Can you hear me?"

"Go ahead."

"Three passenger jets have crashed," she said. "Poland, Indonesia, South Africa."

I was dazed. Ten years before, when I'd tried to bulldoze his whole mathematical world into the sea, Sam had spared my life. Now the far side was slaughtering innocents.

"Is our minefield up?"

"It's been up for ten minutes, but nothing's tripped it yet."

"You think they're steering through it?"

Alison hesitated. "I don't see how. There's no way to predict a safe path." We were using a quantum noise server to randomize the propositions we tested.

I said, "We should trigger it manually. One counter-strike to start with, to give them something to think about." I was still hoping that the downed jets were unintended, but we had no choice but to retaliate.

"Yeah." Alison's image was live now; I saw her reach down for her mouse. She said, "It's not responding. The net's too degraded." All the fancy algorithms that the routers used, and that we'd leveraged so successfully for our imaging software, were turning them into paperweights. The internet was robust against high levels of transmission noise and the loss of thousands of connections, but not against the decay of arithmetic itself.

My watch went dead. I looked to the laptop; it was still working. I reached over and hit a single hotkey, launching a program that would try to reach Alison and the others the same way we'd talked to Sam: by modulating part of the border. In theory, the hawks might have moved the whole border—in which case we were screwed—but the border was vast, and it made more sense for them to target their computing resources on the specific needs of the assault itself.

A small icon appeared on the laptop's screen, a single letter A in reversed monochrome. I said, "Is this working?"

"Yes," Alison replied. The icon blinked out, then came back again. We were doing a Hedy Lamarr, hopping rapidly over a predetermined sequence of border points to minimize the chance of detection. Some of those points would be missing, but it looked as if enough of them remained intact.

The A was joined by a Y and a T. The whole cabal was online now, whatever that was worth. What we needed was S, but S was not answering.

Campbell said grimly, "I heard about the planes. I've started an attack." The tactic we had agreed upon was to take turns running different variants of Campbell's border-jumping algorithm from our scattered machines.

I said, "The miracle is that they're not hitting us the same way we're hitting them. They're just pushing down part of the border with the old

voting method, step by step. If we'd given them what they'd asked for, we'd all be dead by now."

"Maybe not," Yuen replied. "I'm only halfway through a proof, but I'm 90 percent sure that Tim's method is asymmetrical. It only works in one direction. Even if we'd told them about it, they couldn't have turned it against us."

I opened my mouth to argue, but if Yuen was right that made perfect sense. The far side had probably been working on the same branch of mathematics for centuries; if there had been an equivalent weapon that could be used from their vantage point, they would have discovered it long ago.

My machine had synchronized with Campbell's, and it took over the assault automatically. We had no real idea what we were hitting, except that the propositions were further from the border, describing far simpler arithmetic on the dark integers than anything of ours that the far side had yet touched. *Were we crippling machines? Taking lives?* I was torn between a triumphant vision of retribution, and a sense of shame that we'd allowed it to come to this.

Every hundred meters or so, I passed another car sitting motionless by the side of the highway. I was far from the only person still driving, but I had a feeling Kate wouldn't have much luck getting a taxi. She had water in her backpack, and there was a small shelter at the spot where we'd parked. There was little to be gained by reaching my office now; the laptop could do everything that mattered, and I could run it from the car battery if necessary. If I turned around and went back for Kate, though, I'd have so much explaining to do that there'd be no time for anything else.

I switched on the car radio, but either its digital signal processor was too sophisticated for its own good, or all the local stations were out.

"Anyone still getting news?" I asked.

"I still have radio," Campbell replied. "No TV, no internet. Landlines and mobiles here are dead." It was the same for Alison and Yuen. There'd been no more reports of disasters on the radio, but the stations were probably as isolated now as their listeners. Ham operators would still be calling each other, but journalists and newsrooms would not be in the loop. I didn't want to think about the contingency plans that might have been in place, given ten years' preparation and an informed population.

By the time I reached Penrith there were so many abandoned cars that the remaining traffic was almost gridlocked. I decided not to even try to reach home. I didn't know if Sam had literally scanned my brain in Shanghai and used that to target what he'd done to me then, and whether or not he could use the same neuroanatomical information against me now, wherever I was, but staying away from my usual haunts seemed like one more small advantage to cling to.

I found a gas station, and it was giving priority to customers with functioning cars over hoarders who'd appeared on foot with empty cans. Their EFTPOS wasn't working, but I had enough cash for the gas and some chocolate bars.

As dusk fell the streetlights came on; the traffic lights had never stopped working. All four laptops were holding up, hurling their grenades into the far side. The closer the attack front came to simple arithmetic, the



more resistance it would face from natural processes voting at the border for near-side results. Our enemy had their supercomputers; we had every atom of the Earth, following its billion-year-old version of the truth.

We had modeled this scenario. The sheer arithmetical inertia of all that matter would buy us time, but in the long run a coherent, sustained, computational attack could still force its way through.

How would we die? Losing consciousness first, feeling no pain? Or was the brain more robust than that? Would all the cells of our bodies start committing apoptosis, once their biochemical errors mounted up beyond repair? Maybe it would be just like radiation sickness. We'd be burned by decaying arithmetic, just as if it was nuclear fire.

My laptop beeped. I swerved off the road and parked on a stretch of concrete beside a dark shopfront. A new icon had appeared on the screen: the letter S.

Sam said, "Bruno, this was not my decision."

"I believe you," I said. "But if you're just a messenger now, what's your message?"

"If you give us what we asked for, we'll stop the attack."

"We're hurting you, aren't we?"

"We know we're hurting *you*," Sam replied. Point taken: we were guessing, firing blind. He didn't have to ask about the damage we'd suffered.

I steeled myself, and followed the script the cabal had agreed upon. "We'll give you the algorithm, but only if you retreat back to the old border, and then seal it."

Sam was silent for four long heartbeats.

"Seal it?"

"I think you know what I mean." In Shanghai, when we'd used Luminous to try to ensure that Industrial Algebra could not exploit the defect, we'd contemplated trying to seal the border rather than eliminating the defect altogether. The voting effect could only shift the border if it was crinkled in such a way that propositions on one side could be outnumbered by those on the other side. It was possible—given enough time and computing power—to smooth the border, to iron it flat. Once that was done, everywhere, the whole thing would become immovable. No force in the universe could shift it again.

Sam said, "You want to leave us with no weapon against you, while you still have the power to harm us."

"We won't have that power for long. Once you know exactly what we're using, you'll find a way to block it."

There was a long pause. Then, "Stop your attacks on us, and we'll consider your proposal."

"We'll stop our attacks when you pull the border back to the point where our lives are no longer at risk."

"How would you even know that we've done that?" Sam replied. I wasn't sure if the condescension was in his tone or just his words, but either way I welcomed it. The lower the far side's opinion of our abilities, the more attractive the deal became for them.

I said, "Then you'd better back up far enough for all our communications systems to recover. When I can get news reports and see that there



are no more planes going down, no power plants exploding, then we'll start the ceasefire."

Silence again, stretching out beyond mere hesitancy. His icon was still there, though, the S unblinking. I clutched at my shoulder, hoping that the burning pain was just tension in the muscle.

Finally: "All right. We agree. We'll start shifting the border."

I drove around looking for an all-night convenience store that might have had an old analog TV sitting in a corner to keep the cashier awake—that seemed like a good bet to start working long before the wireless connection to my laptop—but Campbell beat me to it. New Zealand radio and TV were reporting that the "digital blackout" appeared to be lifting, and ten minutes later Alison announced that she had internet access. A lot of the major servers were still down, or their sites weirdly garbled, but Reuters was starting to post updates on the crisis.

Sam had kept his word, so we halted the counter-strikes. Alison read from the Reuters site as the news came in. Seventeen planes had crashed, and four trains. There'd been fatalities at an oil refinery, and half a dozen manufacturing plants. One analyst put the global death toll at five thousand and rising.

I muted the microphone on my laptop and spent thirty seconds shouting obscenities and punching the dashboard. Then I rejoined the cabal.

Yuen said, "I've been reviewing my notes. If my instinct is worth anything, the theorem I mentioned before is correct: if the border is sealed, they'll have no way to touch us."

"What about the upside for them?" Alison asked. "Do you think they can protect themselves against Tim's algorithm, once they understand it?"

Yuen hesitated. "Yes and no. Any cluster of near-side truth values it injects into the far side will have a non-smooth border, so they'll be able to remove it with sheer computing power. In that sense, they'll never be defenseless. But I don't see how there's anything they can do to prevent the attacks in the first place."

"Short of wiping us out," Campbell said.

I heard an infant sobbing. Alison said, "That's Laura. I'm alone here. Give me five minutes."

I buried my head in my arms. I still had no idea what the right course would have been. If we'd handed over Campbell's algorithm immediately, might the good will that bought us have averted the war? Or would the same attack merely have come sooner? What criminal vanity had ever made the three of us think we could shoulder this responsibility on our own? Five thousand people were dead. The hawks who had taken over on the far side would weigh up our offer, and decide that they had no choice but to fight on.

And if the reluctant cabal had passed its burden to Canberra, to Zürich, to Beijing? Would there really have been peace? Or was I just wishing that there had been more hands steeped in the same blood, to share the guilt around?

The idea came from nowhere, sweeping away every other thought. I said, "Is there any reason why the far side has to stay *connected*?"

"Connected to what?" Campbell asked.

"Connected to itself. Connected topologically. They should be able to send down a spike, then withdraw it, but leave behind a bubble of altered truth values: a kind of outpost, sitting within the near side, with a perfect, smooth border making it impregnable. Right?"

Yuen said, "Perhaps. With both sides collaborating on the construction, that might be possible."

"Then the question is, can we find a place where we can do that so that it kills off the chance to use Tim's method completely—without crippling any process that we need just to survive?"

"*Fuck you, Bruno!*" Campbell exclaimed happily. "We give them one small Achilles tendon to slice . . . and then they've got nothing to fear from us!"

Yuen said, "A watertight proof of something like that is going to take weeks, months."

"Then we'd better start work. And we'd better feed Sam the first plausible conjecture we get, so they can use their own resources to help us with the proof."

Alison came back online and greeted the suggestion with cautious approval. I drove around until I found a quiet coffee shop. Electronic banking still wasn't working, and I had no cash left, but the waiter agreed to take my credit card number and a signed authority for a deduction of one hundred dollars; whatever I didn't eat and drink would be his tip.

I sat in the café, blanking out the world, steeping myself in the mathematics. Sometimes the four of us worked on separate tasks; sometimes we paired up, dragging each other out of dead ends and ruts. There were an infinite number of variations that could be made to Campbell's algorithm, but hour by hour we whittled away at the concept, finding the common ground that no version of the weapon could do without.

By four in the morning, we had a strong conjecture. I called Sam, and explained what we were hoping to achieve.

He said, "This is a good idea. We'll consider it."

The café closed. I sat in the car for a while, drained and numb, then I called Kate to find out where she was. A couple had given her a lift almost as far as Penrith, and when their car failed she'd walked the rest of the way home.

For close to four days, I spent most of my waking hours just sitting at my desk, watching as a wave of red inched its way across a map of the defect. The change of hue was not being rendered lightly; before each pixel turned red, twelve separate computers needed to confirm that the region of the border it represented was flat.

On the fifth day, Sam shut off his computers and allowed us to mount an attack from our side on the narrow corridor linking the bulk of the far side with the small enclave that now surrounded our Achilles' Heel. We wouldn't have suffered any real loss of essential arithmetic if this slender thread had remained, but keeping the corridor both small and impregnable had turned out to be impossible. The original plan was the only route to finality: to seal the border perfectly, the far side proper could not remain linked to its offshoot.

In the next stage, the two sides worked together to seal the enclave completely, polishing the scar where its umbilical had been sheared away. When that task was complete, the map showed it as a single burnished ruby. No known process could reshape it now. Campbell's method could have breached its border without touching it, reaching inside to reclaim it from within—but Campbell's method was exactly what this jewel ruled out.

At the other end of the vanished umbilical, Sam's machines set to work smoothing away the blemish. By early evening that, too, was done.

Only one tiny flaw in the border remained now: the handful of propositions that enabled communication between the two sides. The cabal had debated the fate of this for hours. So long as this small wrinkle persisted, in principle it could be used to unravel everything, to mobilize the entire border again. It was true that, compared to the border as a whole, it would be relatively easy to monitor and defend such a small site, but a sustained burst of brute-force computing from either side could still overpower any resistance and exploit it.

In the end, Sam's political masters had made the decision for us. What they had always aspired to was certainty, and even if their strength favored them, this wasn't a gamble they were prepared to take.

I said, "Good luck with the future."

"Good luck to Sparseland," Sam replied. I believed he'd tried to hold out against the hawks, but I'd never been certain of his friendship. When his icon faded from my screen, I felt more relief than regret.

I'd learned the hard way not to assume that anything was permanent. Perhaps in a thousand years, someone would discover that Campbell's model was just an approximation to something deeper, and find a way to fracture these allegedly perfect walls. With any luck, by then both sides might also be better prepared to find a way to co-exist.

I found Kate sitting in the kitchen. I said, "I can answer your questions now, if that's what you want." On the morning after the disaster, I'd promised her this time would come—within weeks, not months—and she'd agreed to stay with me until it did.

She thought for a while.

"Did you have something to do with what happened last week?"

"Yes."

"Are you saying you unleashed the virus? You're the terrorist they're looking for?" To my great relief, she asked this in roughly the tone she might have used if I'd claimed to be Genghis Khan.

"No, I'm not the cause of what happened. It was my job to try and stop it, and I failed. But it wasn't any kind of computer virus."

She searched my face. "What was it, then? Can you explain that to me?"

"It's a long story."

"I don't care. We've got all night."

I said, "It started in university. With an idea of Alison's. One brilliant, beautiful, crazy idea."

Kate looked away, her face flushing, as if I'd said something deliberately humiliating. She knew I was not a mass murderer. But there were other things about me of which she was less sure.

"The story starts with Alison," I said. "But it ends here, with you." ○

# AT SIXES AND SEVENS

Carol Emshwiller

Carol Emshwiller's sixth novel, *The Secret City*, is just out from Tachyon Publications. It shares the same milieu as her first story for *Asimov's*, "Worlds of No Return," which appeared in our January 2006 issue. In a new story for our slightly spooky October/November issue, she shows us that peril and confusion can reign when one lives next door to a witch, especially if we aren't too clear about which neighbor is the witch.

**R**emember when this used to be an orchard? Some of the trees still live and still bear fruit. In the yard, the asparagus patch still pushes up stalks in among the weeds. If you're careful you can still climb the porch steps without breaking your neck.

It used to be a nice farm. The old man worked it—mostly by himself. No sons, only a daughter. She's a strong one, though, small but wiry.

Now that he's dead, she keeps it going by herself but she doesn't grow what we grow. She grows useless crops of nettles and thistles. Though I must admit, her strawberries are wonderful, small and flavorful. In certain seasons, I can smell them from here.

Her Dad was peculiar. Kept to himself.

Poor little motherless child . . . she was. My husband and I wanted to help. Her father wouldn't let us. Took her wherever he went in a basket at first. Then made a little harness for her and tied her near him as if she was a dog. That can't be good, especially since we were right here, willing to help.

Later on he put bells on her so he could keep track of where she was. As if she was the bellwether. Once we saw him climb up to take her down from the shed roof. Another time it was that big old cottonwood. Part of it split when he went to rescue her and he nearly broke his neck.

Well, she did grow up, but it's a wonder.

And a wonder she learned to talk. We never heard him say much more than grunts.

He always said he home-schooled her. I'll bet!

Even now that her dad's dead, she never comes to us for anything. All

she has for company is that big old dog and her cat. Even when she broke her leg she didn't want our help. You could tell by the way she looked at us, though that time, she couldn't get along without us.

When I take a rest from housework I take my tea up and watch her out my east side upstairs window. I can see her best when she's in her weedy vegetable garden. She talks as she works . . . or at least I see her mouth moving. Singing would be one thing, but this looks more like jabber, jabber, jabber. What in the world can she be jabbering about? and who to?

She's done that since she was a little girl—yapping to herself. Jumping about so you'd think she was a baby goat.

I say it's her own fault if everything goes wrong. Though she wouldn't tell us if it did or didn't, and now that there's a drought things are going wrong for everybody.

Though why should we care? I've only talked to her, face to face, a couple of times. She's one of those people that doesn't look you in the eye. All these years, I've lived next door, and I don't even know what color her eyes are. I can guess though. You can't have hair that light and fine and have dark eyes.

We're the ones took her to the clinic to get a cast on her leg. We stayed the night in town and brought her back the next day. She had us . . . *let* us, that is, set her up in her so-called living room on the so-called couch. (I wonder how many generations of cats have scratched at it. The one now is a marmalade tabby. A nasty male. He arched his back and spit at me. I can't help thinking that's what she wanted to do to me, too. Iris. Her name, not the cat's.)

She actually did thank us. At least that. Though she didn't even look at me then. I left her with plenty of food and water. I didn't feed the tabby.

I might not have seen her at all, down there behind her lilacs. She'd climbed up to fix an attic window. She didn't yell out for anybody. She just lay there. I went upstairs to my window to see what in the world she was doing *now*, and there she was, her legs sticking out from the bushes. And later that afternoon when I went up to see again, there they still were.

I sort of wanted her to fall but I didn't think somebody like her, who used to climb everything in sight, ever really would.

When I saw she had, I thought, well, she can't object to me going over to see what's wrong, so I did, and a good thing, too. But, as I keep saying, helping people is a thankless task.

There's something wrong with her. All her dad's fault no doubt. I've been watching her more and more. Daniel says I'm not getting my chores done, but I want to see what she's up to. I tell him it might be important. I say, "What if she's a witch? What if this drought is her fault? What about that she dances in her backyard at midnight when there's a full moon?" (Or maybe even when there isn't except it's too dark to see.)

He looks surprised when I tell him that. Not about the dancing, but as if he wonders why I'm looking out the window in the middle of the night.

"It didn't look like any kind of dance I've ever seen before. Hopping and galumphing. Swinging her arms around. Far as I'm concerned, not much different than a four-year-old would do."

All he says is, "Now that her leg is broke, I doubt she'll be doing much dancing."

As if that would reassure me.

But that broken leg is a good excuse for me keeping an eye on her. I'll bring things to her whether she wants me to or not. It's my Christian duty. Even Daniel can't say I shouldn't. I might be able to snoop around the other rooms some. There's never been a chance like this before. I want to take advantage of it.

Daniel would say, "Let her be," but he doesn't have to know.

I bake a batch of gingerbread. I think of making lemonade, but, no, I'll see if I can pick up something over there. That'll be an excuse to look around. Not that I relish seeing all that scratched up furniture.

Should I knock or just barge in?

I'll barge in.

I yell, "Yoo hoo, anyone to home?"

It's the cat meets me at the door.

Iris is right where I left her, potato chips all eaten, the water drunk. But I see signs that she's been up. There's two of her dad's old canes beside her and a little chair pulled up close by. There's an old army blanket thrown over the couch back. Days are so hot I forgot the nights are cold.

I put the gingerbread down beside her. "Still warm," I say. I unwrap it and the good smell fills the whole dusty, tomcat-smelling house.

She actually looks right at me, and as if she's grateful. Her eyes. . . . I was wrong. How can such a wispy blond have brown eyes?

"I'll get you something to drink."

I march right into the tiny kitchen.

She can't complain about me rattling around looking for things when it's all for her. Besides, what I find might be for the good of all of us. Maybe the whole village.

I look around as fast as I can.

Devil's claw, squaw tea, wild rose hips. . . . Acorns! Lots of dried lettuce sort of stuff. Things a witch would have.

I take pinches of several of those things and put them in my apron pocket.

The cat watches.

I swear that nasty Tom looks at me like the Devil himself. Who ever said a witch's cat had to be black? Seems to me a marmalade color is just as bad.

Dishes draining in the sink look clean enough. She's been up. I'm sure of it. Or somebody has.

Cat dish on the floor is empty. I whisper, "Don't expect me to feed you. Go get yourself a mouse."

I let the water run till it's cool so I have more time to snoop. (Not that the water's ever cool this time of year.) I bring her a glass and a pitcher of it.

I say, "I'll get you another blanket and a sweater. Nights are cold." And off I go before she can stop me.

There are two small bedrooms across from each other. The dad's is still

clearly his. It's been what? Four, five years since he died? Though why would she change it and who for? It smells odd. That old hound must be sleeping in here. I wouldn't ever let a dog like him inside my house let alone on a bed.

Her room . . . There's the oddest picture on the wall. It's a combination diagram and photo. Can't be from around here. Jagged cliffs and such. A waterfall coming right out from the middle of the rocks. A night scene. Moons galore. Or maybe the same moon at different stages. Lines go back and forth across it, with numbers and letters that don't make any sense.

I've a good mind to ask her where her father came from, and if this picture on the wall is where. I always did wonder. He had an accent. But I won't ask yet. I don't want her thinking that I'm thinking things.

I rummage for a sweater. Then I think maybe she wants a clean blouse and underwear, too. I'm not going to help her get any of those on or off over her cast. I'll just bring them. Enough's enough.

Everything else in the room is perfectly ordinary—nothing fancy there at all.

Well, not so ordinary. A normal young woman would have had some posters of movie stars or musicians on the wall, not this odd landscape. A normal girl would have maybe her own artwork. Or pictures of horses, that's the usual around here. She does have some feathers stuck on the wall with push pins. Some big brownish black ones from turkey vultures.

Turkey vultures! It all fits together.

On the way home I pick an apple from one of those old trees. I take a couple of bites—so sweet and juicy—better than most. Wormy of course. Tasty as it is, I toss it away. It's like her. She's a pretty girl, but a menace to all of us.

But Daniel won't pay any attention to me. All he'll say is, "Let her be, for heaven's sake. She's doing the best she can."

"How can I let her be when I'm sure? And look how dry our fields are. And she won't even ever come to church. Isn't that a sign of something? And what about those apples?"

"What about them?"

"Isn't it just like a witch to have the sweetest apples of all and then have them all wormy?"

Daniel just laughs.

I'm not going to "let her be," but I won't tell Daniel. I have to stop her. What could stop a witch? Salt? Vinegar? Maybe you have to fight fire with fire. Maybe I can think up spells of my own to out-spell her. Maybe I could do my own moonlight dance. With her broken leg, I could get way ahead of her spellwise.

All that blah, blah, blah, when I saw her mouth moving. That must have been spells. I should have thought of that before. Where can I find a spell of my own? Or do I have to make one up? And talking in tongues. I've heard of that. Is that from God or the devil? Boolla bomba sitty so, sat satterloopa gluey zit. I can do that without even trying.

Saturday night seems like the right time, and the moon is *almost* full.



I do it. I go out and dance. Actually, it's a nice thing to do. I didn't think it would be. It was hard getting started, but once I do, I enjoy it. You have to forget yourself and not worry about how it might look. Thank goodness Daniel is too sound a sleeper to wake up in the middle of the night and see me.

Of course next morning I'm all worn out. I sleep till eight. Daniel brings me tea and asks me what's wrong. He says I look pale. He's milked the cow and goat for me and he's already been out in the fields for an hour. I guess I danced longer than I thought.

I drink the tea looking out the window in my usual spot. I don't expect to see her but I do. First I see the cat. Swinging his tail in a kind of swagger. He's so self-possessed it makes me angry. But then she comes out on her mismatched canes. She gives up, drops the canes and just crawls dragging her leg behind. It's the strawberries she was after. She sits there and picks them straight into her mouth. She doesn't look much like a witch now. More like a greedy little kid. But she doesn't fool me.

I can't ask anybody to help me. Daniel certainly won't. And, far as I know, there aren't any books about it. I'll have to find out everything by myself.

But, once I think about it, when I saw her climbing up to fix her window, I wanted her to fall and she did. I wasn't even thinking about a spell. Now what did I do right that time that made it happen?

Next time I see that cat I'm going to stare right back at it no matter how much it stares at me. If anything is evil around here it's that cat. Maybe he's the one in charge of this drought. Maybe he's the one I should get rid of.

That afternoon I ask her right out where did her father come from. I bring her a cheese sandwich and pickled green tomatoes, and I pick up some of her own apples on the way over. She thanks me, nice as could be.

She says he was Romanian. It figures. Didn't all sorts of odd people come from Romania? Gypsies and such, and even Dracula?

Her father came out here alone with just that baby girl. Maybe he stole her. Except you could see she was nothing but a big bother to him while he tried to farm. I wonder why he wanted her and took all that trouble to look after her. I guess she must be his real daughter.

Then I ask her, "Where's that old dog of yours?"

"Howie? He's around here someplace. He always is."

"I haven't seen him."

He's no particular kind, just a big, lumpy dog. Almost as red as the cat. There must be a reason why every creature around here is red.

That cat and I stare at each other. I'm the one that looks away first though I vowed not to. He looked me up and down and back and forth. I never saw the like. I felt kind of shaky afterwards.

"What did you say this cat's name is?"

"We just call him Red."

We? Who does she mean, we? Or did they have him back when her father was still around?

How about I get rid of that cat first? I'll talk in tongues and make up a

dance and a spell. . . . I won't do anything like put out poison or set a trap. I'll dance for a pleasant easy death—in the middle of a happy dream.

I do it. I dance and dance. Actually I haven't had so much fun since Daniel and I went dancing when we first married. Daniel has been too busy to even think of dancing. Besides, I don't think he ever liked it. I talk a crazy language all my own. Or maybe it's Romanian or some sort of gypsy language. How would I know? But whatever it is, it comes easily.

In the morning, everything's at sixes and sevens. Lunch isn't even begun and laundry not done. I don't wake up till around ten...ten for heaven's sake! Daniel comes in to see how I am and I'm not even up yet. He thinks I'm really sick. He says, again, how pale I look and that I have circles under my eyes. He brings me toast and chamomile tea and tells me to stay in bed, which I'm happy to do. I lie there and doze and think. Ditties and sayings keep rolling around in my head. Proof of the pudding, Catch as catch can, Cat's out of the bag, Willy nilly, and such. I think I'm a natural at . . . I'm not sure what, spells I guess.

Then I remember the things I pinched off and put in my apron pocket. I get up and check on them. Crumble them. Mix them all together and boil them up. I figure, since I don't know what I'm doing anyway, might as well use them all. I could tell one was just catnip, but who knows, catnip might be magic. Besides, there's that cat.

I taste them. Ugh. I put what's left in the icebox. Strange, but even that little sip made me feel a lot better. I was just dragging myself around. Maybe I'll keep the brew for when I need energy.

So far nothing has happened to that cat. I went over there special to take a look. I brought some leftover hamburger. There she was, lying there as usual, and there was that cat. If cats can give the evil eye, that cat is doing it. I don't even try to match it stare-to-stare anymore.

"Have you been up?"

"I've crawled around a little."

"Poor child. What can I do for you before I go?"

I do want to be kind. I always like to help.

"Would you feed the cat? And make sure he has water? Please."

She's asking this deliberately. Is it some kind of a test? She hasn't asked me to do anything before. Not even once. For sure only a witch would ask me to do that, knowing what that cat thinks of me.

Should I do it or not? Or should I poison him right now? But with what?

I won't do it. Neither one, neither feed nor poison.

"I'm afraid I must be off."

I hurry away, all shaky. What am I thinking? A spell is one thing, but poison? Yes, but that look in his eyes. As if he knows all about me.

I dance that night yet again . . . even though nothing seems to be happening over there. This time I sing and beat time on an old jar. I have even more fun than the other nights.

And then I look up and see Daniel at the window staring down at me.

I stop and just stand there, breathing hard, and here he comes, out the back door.

"What in the world?" And, "No wonder you're tired." He's angry. "What's got into you? The house is a mess and the cooking is lousy, and here you are enjoying yourself in the middle of the night."

I start to say that I'm *not* enjoying myself, but I realize I am. In lots of ways. I love to dance and I have this purpose . . . to save us all from the drought. I'm helping people.

"Come back to bed." He takes my hand. He doesn't look so angry now. "I'll make you some chamomile tea. You're shaking."

Even with the tea, it takes me a long time to calm down and go back to sleep. I lie there thinking about that cat. Spells and dancing don't seem to be working. I'm going to have to find a better way.

Next day I get up at a reasonable time and make Daniel's breakfast. I decide not to go over to Iris's for a while. She's getting better and I left extra cheese and bread last time. Besides, she's got her strawberry patch. And she probably could get some of her wormy apples, too, without much trouble.

How do you kill a clever cat? I've already done all the spells and dancing I can think of. I need a rest and a chance to think up more things to do. What's a pentacle?

Next time I do go over there, she's lying on the couch again and the cat is sitting on the back of it right over her as if on guard. (Look how he looks at me. Those funny slits of cat's eyes. As bad as a goat's.)

Somebody has left her fresh water and I see the remains of food I didn't bring. There's even apricots from my tree. I was right all along, somebody besides me is helping her. Or some kind of witching is going on. How else could she have gotten five of my apricots?

But she's been crying. At first I think I should have come over before, but my not coming isn't the problem.

"Howie is . . . like you said . . . off somewhere. I haven't seen him for days. He's so old. I was wondering if you could look for him. See if anything happened to him."

"Me!"

I'm so startled it comes out in a squeak.

"If you wouldn't mind. You've done so much already I hate to ask. And he is old. He could have just crawled off to be by himself to die."

I will. No harm in a little walk around. I might learn more about her and her place.

"Yes! Yes, I will," I say.

I run around to the front of the house. That's the part I never can see from my window.

What a mess. The front porch is obviously never used. There's the old swing. I don't dare sit on it. Its rusty chains would probably pop right out of the ceiling. There's a wasp nest up there, too. Of course what use has Iris for a porch like this, anyway? Nobody will ever sit here.

I almost forget I'm supposed to be looking for Howie. I lean over and

check under the house. As far as I can see it's empty under there, but I'm not going to crawl in. She can't expect me to do that.

I go around to the outbuildings. I check under the honeysuckle. I go into—not very far into—the dusty old barn. I go all the way to the edge of her land where the goat shed used to be. And I find him. Dead. Did I do that with my spells? I meant to kill the cat, not this poor old mangy dog. Well, at least my spells worked on something.

I have to go back and tell Iris. I hope she doesn't want me to bring her the body. I just can't do that. It already smells. Maybe Daniel will do it for her. I'll tell her he'll bury him under the honeysuckle if she wants that.

When I come back to tell her, that cat is still sitting on the back of the couch as if on guard. He stares at me again.

"He's dead," I say.

She tries to get up right on her broken leg, but then flops back down.

"He's out by the goat shed. Daniel'll bury it if you want him to. Do you have a wheelbarrow?"

Daniel does go over. I didn't go with him. I figured I'd done enough. Besides, I wanted to think. I mean if she only has that cat for company I feel sorry for her even though I still think that cat should go. What if I found her a puppy?

Daniel looks shaken when he comes back. "That old dog wasn't worth much except for company. She's going to miss him. He was her father's. Thirteen years old."

Thirteen! Everything is fitting together.

"I'm going to get her some crutches. Why didn't we bring some right away? I know you've been helping her a lot, but she needs to be able to get around more. She wants to make a grave marker. I found her a nice piece of wood. I'll pound it in when she's got it carved."

He shakes his head no, about five times. He's still upset. "We wrapped him in her grandmother's old handsewn quilt."

"But that quilt must be valuable."

"She even had me put flowers in the grave and old bones and a book that belonged to her father. She had an antique necklace, and she put it around the dog's neck. I know how she feels. Remember when little Mitzie died?"

"It's not the same. Mitzie was a big help to you."

"She sure could move cows."

Too bad about that quilt. All that handwork gone for a dog. I don't say it, though. Daniel looks as if he thinks it's perfectly all right. I suppose that's just like a man.

Daniel is so bothered he doesn't eat much supper and drinks too much coffee. And I never saw a person shake their head "no," so much. I don't think I'll be able to dance this night. He won't be sleeping well. And all because of a no-good lumpy dog that didn't even belong to us.

I do sleep well though Daniel doesn't. I hear him get up. I see him

standing, looking out the window towards Iris's house. It's a moonless night so there can't be anything to see. I feel a yearning to be out dancing and chanting but I'll just have to wait for Daniel to stop his worrying. And I'll have to stop dancing so close to the house. Maybe it would be better if I did it nearer to Iris's place. That old orchard in the moonlight! With all those half-dead broken down trees. . . .

Daniel is way ahead of me. He finds a puppy in town. A stray that ended up at the feed store. Nobody knows what kind it is or how big it'll get. He brings it here first and asks me how I think she'll like it. It's been mistreated and needs a good home.

"Look," he says. "Somebody hit him on the head and ruined his eye. See the scar? And his ear is torn."

None of that makes him very nice to look at, but I don't say so.

He bought a big bag of dog food and a bowl that says DOG on it. And he also got her some crutches.

"How much did all this cost?"

"It's maybe too soon for a new dog, but he needs somebody and it'll be good for her to take him in."

Then he looks at me in an odd way as if maybe it would be even better if I took him in. I certainly don't want it—not even for an hour.

"Take it over now. It'll cry all night and I'm not taking it to bed with us. Beside, she'll want the company."

Next day I go over with fresh hot cornbread and there's the pup snuggled up beside her. Looks like even the cat has accepted him. He's walking back and forth across the back of the couch swinging his tail as if in charge of everything.

She's been up and around. There's some wash hanging on a new little line over the sink. I wonder if Daniel put that line up. And there's that new dog bowl.

I bring her fresh water and fuss around as if I'm doing something though it seems Daniel has already done everything that's needed. More than what's needed. For Heaven's sake, he turned down her bed and put a candy bar on her pillow. For that skinny girl?

I go home feeling really bad. I go into the barn but the cow and goat are out to pasture now. There's nothing warm to lean against.

Could she have given him some sort of love potion? What could he see in such a wispy little person who always has her hair falling in front of her eyes? And she hardly has any breasts at all.

I don't know how I did it, but I do it. I kill that cat. Cats don't fall. Or if they do they don't hurt themselves—not from just two stories up, which is all we have around here.

It was hard to do. I danced half the night, not in my yard, but way out in the back of that old orchard.

Iris comes hobbling all the way over here on her new crutches, the puppy running circles around her lickety-split. Even from my kitchen window I can see she's crying. Daniel is out in the fields so it's just me.

I walk out to meet her and get a skirt full of puppy paw prints. If that dog was mine, first thing I'd teach him is not to jump on people. When he gets bigger it's going to be a lot worse.

Right away she says, "Why does everything happen all at once? I know they were both old but why right now, one after the other? Everything is dying."

And I know I did it, finally. I feel such a sense of power.

"Will you help me bury him?"

So we do that. We put him right next to where Howie is. With flowers and half that chocolate bar Daniel left. She wraps him in an old shawl. A flowery one with fringe. Some sort of heirloom I suppose. I don't think she should do that, but I don't say a word. I'm not one to criticize.

Afterwards she thanks me and says I should go on home, she's going to sit there for a while.

At first that pup tries to follow me but it soon gives up and goes back to Iris.

We're all in trouble if it gets to be the size of Howie and keeps on jumping on people. I'd be doing everybody a favor, yet again, if I got rid of it before it gets up to that size.

The drought goes on. We've never seen it this bad. And hot! I wish I knew if Iris was finding a way to keep on dancing and doing spells even with a broken leg. She is getting better. I should feel sorry for her with just that bouncy puppy out there, and I sort of do but not if she's a witch.

I don't go over there as often as I did and I thought Daniel had stopped going over, too, but then I see him coming home from the wrong direction. He doesn't lie. When I ask he says he was checking on her. That she was up and had cooked apple tarts. He says they were delicious.

I ask if the worms were good.

I can just see them sitting on that smelly old couch gobbling tarts—which are no doubt full of that love potion of hers—one wispy dishwater blond and one dark, not very tall man with hairy arms. I don't see why either one would want the other.

Maybe if I dance all the harder. . . . Or maybe I shouldn't be enjoying dancing. And what about those herbs I cooked up that make me feel so energetic? I still have some of that tea left. I think I'll go on back to her place and steal some more dried green things.

This time it's easy. There's nobody home. And here are the apple tarts. I shouldn't. Who knows what will happen? But they look so good.

I always bring something as an excuse. This time I brought apple turnovers. Same apples. My turnovers are good, too.

I take my time looking around again. There are some books in a different language. Those are probably exactly what I need, if only I could read them. I steal a small one. Put it in my pocket. It has diagrams. I might be able to figure something out.

I meet her and the puppy coming in just as I'm leaving. By the looks, she's been out crying over the graves of Red and Howie.

"I left you an apple turnover," I say, "and I ate one of your tarts. I hope you don't mind."

I think, so there, if it's full of love potions then you're in for it from both of us. But she doesn't seem upset, and, anyway, I don't feel any different.

Later Daniel comes home—from the wrong direction again. He looks glum. Or maybe just thoughtful. I feed him a whole batch of cooked up greens from Iris's house. I have no idea what they are.

That night he has really bad diarrhea. He's up and down so much I don't have a chance to go out and dance or do any such thing. And then here he is home all day. He doesn't complain, he never does, but I can see he's feeling terrible. I think of going over to ask Iris if she has any sort of herb that would help him, except that would let her know I was on to her.

I don't very often cook up a mess of greens. Daniel is looking at me with suspicion as if he thinks I was trying to poison him. When I make him tea, I think he gets rid of it on the African violets.

Later, sick as he is, he goes over to Iris's, and not even with food or anything as an excuse. He just goes. He stays a long time, too. At twilight I start over to see what's up but I meet him on his way home. He says he's not hungry for any supper.

All right, that's it then. Tomorrow is Sunday. We don't go to church that much, but I'm going and I'm telling everybody that Iris is, for sure, a witch and that Daniel is in it with her and that this whole drought thing is their fault.

Daniel falls asleep in his easy chair. He's exhausted. I wonder if it's from getting up and down all night long or is there another reason. To think I used to look at that dark, brooding face of his and think it was romantic. Now look at him, hair hanging over his eyes, shirt all sweated up. . . . I wouldn't want to kiss those cheeks, him badly needing a shave. How could Iris do that?

I go out under the ghostly gibbous moon. I'm so mad I can think up spells without even trying. Spell after spell after spell. And I can talk in tongues and dance as never before. I go on for hours. Until I see . . . First there's smoke and then the twinkle of little fires. Like fireflies and then larger. I did that somehow. Then here come magpies, and all that black and white and screeching! and I'm dancing with them. I take one of the little fires and set fire to our corncrib. I don't need matches. Then I take some of that corncrib fire and set fire to our barn. And those magpies are still flapping around all over the place. And there's mooing and baaing and screeching.

And Daniel, rushing into the barn, freeing the cow and goat, and here's Iris, on crutches, and they're both looking at me and I'm dancing and dancing. Daniel says bad words. "What the hell?" and "Damn." And worse even. And I say, "Neither of you can ever touch me."

It's true, I'm in charge . . . of all of it . . . I see that now . . . of the drought and of them. I say, "Bitty tatty go bo bat zakky yat." And I hear my laughter going on and on and on as the moon hides behind cinders and the ground comes up and welcomes me. ○



Susan Forest's recent sales include stories to *On Spec* and *Tesseracts Eleven*. Readers can check out her website at [www.speculative-fiction.ca](http://www.speculative-fiction.ca) to learn more about her fiction. The author's current story for *Asimov's* was inspired by Calgary's Imaginative Fiction Writers' Association's annual short story readings. This tale exposes us to some exquisitely alien animal husbandry and it explains why it is so hard for some debts to be . . .

# PAID IN FULL

Susan Forest

**"F**reddy, could you keep my gnat in your barn for a bit?" Willy asked. "The tide undercut my stable's foundations yesterday and it's collapsed."

"Willy, you know I can't do that." Freddy tightened a bolt on his aphid milker.

Willy seemed to survey the windswept farmyard perched above the sea—house, machine shed, aphid shelters and the massive, two-storied gnat barns with rows and rows of bins. The briar-grass prairies that fed Freddy's aphid grubs stretched, uninterrupted, to the apricot smudge of the horizon.

"Just for a few days, Freddy," Willy said. "There's a friend."

"My bins are all full as it is." Freddy checked the other bolts. "And you know my wife'd fuss about it no end."

"Martha." Willy said the name without inflection, but he leaned his gangly frame against the feed conveyor and squinted into the blustery sky with an air of reproof. "Is *she* running the farm, then?"

Freddy tossed an aphid hook into the bed of his pickup and wiped the grease from his hands. "She's right, Willy. We've got an extra male gnat until auction, as it is."

"It's just for a day or two, and you know my female will sleep during the day. No trouble. It'd mean a lot to me."

Freddy pushed the button on his remote and observed as the aphid strokers mimed milking a juvenile. Satisfied, he flipped the machine off and peered out at the restless waves foaming on the tide pools below the bluffs. "You need your own bins, Willy. You should have built your barn in the lee of the hill while your larvae were young."

"Shoulda, shoulda, shoulda." Willy touched the pad on his rain slicker and stepped up its water resistance. "You're free with advice, Freddy. But that does me no good now. You know I have no credit with the bank. I had to sell all my larvae, just to meet my payments."

"You can't keep coming to me for favors whenever something goes wrong."

Willy raised his brows. *You owe me nothing*, his look said. *And everything.*

Freddy sighed. "Where's your gnat now?"

"Tied to my dory with a rope."

"Is it a big one?"

"Fair big."

Freddy powered down the milking machine and zipped up his oilskin against the chill wind. "Well, show her to me, then."

"You're a good friend, Freddy."

"I'm not saying I'll do it."

They walked down the bluff to the rocky beach where Willy's boat was drawn up on a spit of sand. Slate clouds rested on the ocean and salt gusts whipped up a fine spray.

Willy hauled the canvas from the stern. The gnat lay, all sticklike legs and proboscis, compound eyes and long abdomen, crumpled across the whole width of the boat, one lacy wing folded under the seat. Her waxy exoskeleton gleamed like ivory, etched with spidery hairs, pale and delicate.

Freddy's gut wrenched. "I thought she was a Dark."

Willy blinked at the insect. "She was. She was a Dark."

"Well, she's not now, is she?" Freddy took a step back and scanned the sky. Of course, there would be no wild gnats flying now. Sunset behind the clouds would not come for another couple of hours.

"By God!" Willy cried. "First the tide undercuts the piles bracing my barn, then Louise goes home to her mother. Now this."

"You've got to kill her," Freddy said. "Now, before she wakes. I'll get my axe."

"But she wasn't a white gnat," Willy protested. "Someone's taken my gnat." He looked up and down the beach. Back the way they had come, a rocky headland rose over the crashing waves, while in the opposite direction, a rickety wooden pier bobbed with the surge, deserted.

Freddy surveyed the cliffs behind them. "Not a soul's been here all afternoon, Willy. And it's five miles—of nothing—to the settlement." He walked around the stern of the dory and scrutinized the tattoo on the bony plate in front of the gnat's wing. "LC0042376."

Willy kicked the sand. "She's the one. Elsie."

"Then this is your gnat," Freddy said. "No one took her."

"She was a Dark when I put her there this morning!"

"She's been bitten by a wild White, Willy. You've gone and let her fly at night with them."

Willy whirled to face him. "Well, I had no bin to put her in last night, then, did I, Freddy?"

"Cut her to bits and throw her into the sea!"

"I can't!" Willy ran his bony fingers through the shock of lank hair that continually fell into his eyes. "Freddy, she's my last gnat. I sold the others before auction. But Elsie's a female. She's full of eggs."

Freddy shoved his hands deep in his overall pockets. "Your last gnat?"  
 "She's all I've got, Freddy. Once I've got eggs, I can get a loan for a new barn."

"And your aphids?"

"Sure, I have a few. A dozen, to feed her young."

"Willy, your farm used to be profitable—"

"Shut it!" Willy bent over, all elbows and knees, fingers clutching his hair.

"Well, now." Freddy stood over the dory, uncomfortable at Willy's anguish. He shuffled the pebbles, waiting for Willy to get control of himself.

But how could he? It was easy for Freddy to stand there, watching and helpless. His farm churned out four million gnat larvae a year for sale all over the galaxy, feeding them on the honeydew of fifty thousand aphids, five to seven prime females and at least two stud males every breeding cycle. He didn't have the problems Willy had.

Willy straightened, gazed out to sea, sniffing back his outburst. "She's just tired," he said huskily. "Her color'll come back. Just a few days, Freddy. Till she lays her eggs. Then I'll be on my feet again."

What could he say? Hadn't he told Willy to build his barn in the lee of the cliffs, not by the sea, where the footings could be undercut? Hadn't he told Willy to keep breeding his first mating pair instead of buying and selling gnats at market? Hadn't he told Willy that Louise was too young, too flighty to be a farm wife?

Willy turned and eyed him.

Freddy brushed at a wayward mist of salt water carried from the surf by the squall. "Willy . . ."

"Freddy, I'm a proud man," Willy said hastily. "I would never have come to you—"

"Willy, she's been bitten by a White."

"She's not!"

"She's been bitten by a White. She's dangerous. I can't keep her after dark. She'll bite my males and suck the blood from them; she'll bite the females and turn them White. She'll even bite you, Willy, if she sees you after dark."

"She wouldn't. I've raised her from the egg."

"She's a gnat. There's no difference between Elsie and a Wild but a few dozen years of breeding." Freddy puffed out his frustration into the salt air. "Listen. You can stay with Martha and me until you get on your feet again. You can—"

Willy shoved the canvas over the back of the dory. "Never mind."

"Willy—"

"A bin. Just a single bin, for a couple of days." He bent to the bow of the boat and pushed it toward the sea.

A flush of anger washed over Freddy. "If I let a White in my barn for even an hour past sundown, I'll have no farm left!"

Willy grunted with the effort of pushing the boat across the rocky beach. The waves lapped her stern.

Freddy recovered himself. "Now, don't be going off pig-headed."

A swell washed around the back of the boat and, returning, sucked at the dory.

"Look, dark's coming on. Leave the boat. Come and spend the night."

Willy gave a final push, wincing with the strain, and the boat lifted on the water.

"Willy, come back."

Willy sloshed through the waves and steadied the boat.

"You stubborn goat!" Freddy waded into the foam and pulled at Willy's rain slicker. "There isn't time to get back to your place before dark."

"Get off!" Willy shoved his elbow into Freddy's stomach and knocked him into the water, almost unbalancing himself.

Freddy took a mouthful of salt water with the next wave, then dragged himself, spluttering, out of the surge. He staggered to shore as Willy hauled his long legs into the boat and adjusted the oars. The fool! "I'm calling the settlement sea patrol."

Willy glared at him and pulled on the oar to turn the boat into the surf. He pulled again, pulled again, and the dory made way toward the ocean. Before long, Willy was only a speck, bobbing on the waves.

Freddy trudged up the bluffs to his house. He took one last look at the sea and cloud, darkening to charcoal, before slipping into the warmth and light of his home.

The aroma of roasted meat filled the kitchen.

"Isn't Willy staying over, then?" Martha stood by the counter, cutting through the carapace of a tender young aphid grub. She looked up at Freddy. "Oh. I see you two have had a falling out."

Freddy patted her cheek, then rang up the sea patrol.

They ate their dinner. With every gust of wind or creak of the wooden house, Freddy's eyes were drawn to the window, hoping to see Willy through the glass, but the grey day slipped toward night, and Willy did not return.

"I shouldn't have let him go." Freddy peeled the meat from the inside of the shell and dipped it in melted butter. Rain spattered on the window.

"You tried to get him to stay with us," Martha said. "You called the sea patrol. You did what you could."

"I didn't give him a bin for his gnat."

Martha put down her fork. "How long are you going to let the man bleed you?" she asked. "How long has it been since Willy killed that White for you? Fifteen years, Freddy."

"He saved my life. That White had her proboscis in my leg and she was sucking—"

"Sure, and since then you've lent him money, you've paid his gambling debts, you've given him aphid eggs—"

Freddy raised his hands to stop her words, but had none of his own to fill the space.

"You're a good man, Freddy. Too good." She rose and took his plate. "You did the right thing. It's all we can do to cling to this rock. Let Willy stand on his own two feet."

Freddy pressed his lips together and shook his head. He pushed away from the table and sat in the living room with a newspaper on his knee. The panes of glass in the window turned black and reflected the lamplight.

Martha finished the dishes and stood in the doorway. "Come to bed,

Freddy. He'll not be coming now. If he stays out after dark, the Whites will swarm him."

"Just another minute." Freddy adjusted his newspaper as though he had been reading it. Rain rapped on the windows.

"Turn out the light," she said. "It just attracts the gnats."

As if to prove her point, a slap sounded against the wall and a white wing flashed momentarily outside the window.

"Freddy." Martha's face paled. "Turn out the light. You know I don't like them."

He switched off the lamp. "You go on up. I'll be there in a bit."

She tugged on his arm. "The Whites are out," she whispered. "It's too late. Come up."

Reluctantly, he followed her up the stairs, but he couldn't sleep. He lay under the covers listening to the rain and wind beat against the house, playing out possibilities in his head. Had the sea patrol reached Willy in time? Would he pass the rocks at the headland so the surf wouldn't hurl him on the cliffs or sweep him out to sea? Would the Whites find him, tossing in the waves? Freddy dozed off and woke a handful of times, dream and imagining melding together with the roar of the storm.

Freddy woke to someone shaking him. Martha. "Freddy!" she whispered. "Freddy, wake up! What's that sound at the door?"

The room was still pitch black and the rain struck the windows in sheets. But, yes, there above the storm he heard the sound of pounding. And was that a voice, or just the wind calling out?

"It's Willy," he said. "He's come back."

She gripped his arm. "It can't be Willy. It's hours since he's gone."

The pounding came again.

"There, that's him," Freddy said. "He's calling." He flung the quilt back.

"No!" Martha cried. "Don't go down! Stay with me!"

"It's Willy."

"It isn't! Don't open the door!"

Freddy flipped on the light. Immediately, something hit the bedroom window. A gnat.

"Turn it out!"

"It's a swarm," he said. He turned out the light, but in his mind he saw Willy at the door, the swarm gathering.

Slap, and slap again. Wings hit the windows, glinting momentarily, pale against the black of night.

The pounding came again, followed by a scream of anguish.

Freddy bounded down the stairs and turned on the porch light.

"Don't!" Martha called from the bedroom, her footsteps scurrying behind him. "Don't open the door!"

He reached for the knob, but Martha wrapped her arms around his waist and pulled him back.

Above the beat of the rain, there was a sudden cry and the pounding ended abruptly. Something scraped across the gravel.

"It's Willy—"

"It isn't! It's a White!" Martha pulled with all her strength and he tripped backward onto her. She wriggled out from beneath him and

struggled to hold him down. Tears streamed down her face. "Please, please, please—"

Sheets of rain slammed against the house.

Freddy disentangled himself and pulled the aphid hook from its place by the coat pegs. He flung the door open and plunged into the drenching night. He could make out nothing but wildly waving grasses and obscuring rain. He ran down the path.

There, in the gravel, a White hunched over Willy's long form, face down in the muck. Her compound eyes glittered in the light from the house. Her wings were folded and her body braced against the gale, but she gripped his legs with three of her claws. Her proboscis pierced his rain slicker.

With a shout, Freddy leapt forward. In one motion, he stepped on her mouth parts, locking them in place, and, buttressing himself against the base of her wing, jammed the aphid hook through her eye into the soft place beneath, where her small brain resided. Still, she struggled to free her mouth, to open her wings and fly. Scrambling her brain didn't stop her; she braced her forelegs and clawed at him with a hind leg.

Freddy pulled the aphid hook out of her eye and stabbed at the joint between her head and thorax, repeatedly, trying to sever her body. He leaned on her bony hump to crush her down, to use the leverage to snap her head, and to keep her rear claws from raking his legs.

The carapace cracked and thick fluids gushed over his knees. The gnat crumpled, twitching in the gravel, her wings fluttering in the wind.

Panting, Freddy dislodged the proboscis from Willy's ribs. Blood pumped from a ragged wound below Willy's knee.

A clicking above the gale drew his gaze to the sky. Another White flicked overhead, battling the storm to land. A second gnat crawled toward him from the direction of the barn.

Freddy clasped his hands under Willy's armpits and heaved. Willy's long limbs dragged over the gravel as Freddy inched him up the path to the house.

A third gnat landed by the machine shed.

Adrenaline gave Freddy a burst of strength, and he pulled Willy's body to the door. He beat on the window. "Martha!" he called.

He shoved on the door but it held tight. No light shone through the window. "Martha!"

A fourth gnat appeared out of the gloom, creeping over Elsie's carcass.

"Martha!"

The door gave, suddenly, and he tumbled inside, pulling Willy over the threshold. Martha kicked Willy's feet inside the sill and slammed the door in the path of the attacking White.

Freddy lay back and panted in a puddle of rain and gnat guts and blood, Willy limp across his legs, and Martha sobbing across his chest. By God. By God, they were alive.

Alive.

Freddy paid Willy's hospital bills. He paid for Willy's prosthesis after his leg was amputated. He milked Willy's aphids and built him two sturdy gnat bins. He gave Willy a dead goat injected with gnat eggs and



bought him a combination diagnostic and fungicide treatment computer for his aphids. He puttered around Willy's farm, mending a fence, tidying drawers of nuts and screws.

"I suppose you think this makes us square," Willy said when Freddy finally came to the hospital.

"No, Willy," Freddy said.

Willy coughed and held his ribs, frowning through the window at the desolate plain. His dinner lay on a table, untouched.

Freddy shook his head. "We'll never be square."

"Darned right!" Willy growled. "Me and my crippled leg. How am I supposed to milk my aphids now? I don't have a machine like you."

"We'll never be square." Freddy's voice was hoarse and low and he held his lips tight. "But I've done all I'm going to do. Good-bye, Willy."

"What—"

"No. I'm gone." Freddy slipped from the room.

"A curse on you!" Willy cried out.

Freddy stopped in the corridor, arrested by the words. He stared at the blank wall. He would not go back.

"Freddy!"

A nurse rattled a cart down the hall, and someone moaned in another room.

"Freddy!"

The wind beat at the window and the machines and hospital caregivers nursed their charges. No further sound came from Willy's room. Freddy stood back where Willy couldn't notice, and peered through the door. Good-bye, Willy. Pallid sunlight grayed the plastic floor and synthetic blankets. Willy had pulled his table closer and hunched over it, sucking his dinner through a straw. ○

## MODERN CONSTELLATIONS

What would we designate:

Coca-Cola, Mickey Mouse,

a bike, a pigeon, a house?

Or constellation IBM, Wal-Mart, Nestle?

It's best there's no space left in sight

for giants to buy naming rights.

We've exhausted our heroes and myths.

The binary system covers our needs.

We worship efficiency and speed.

An American constellation?

I figure it would be

a chocolate-chip cookie.

—Pat Tompkins

# NIGHT CALLS

Robert Reed

Although Robert Reed's latest tale is clearly a homage to one of science fiction's most famous stories, inspiration for this piece came from elsewhere, too. As Bob tells us, "despite what the outside world might believe, little Lincoln, Nebraska, has a substantial immigrant population. I once worked with Vietnamese refugees, and a substantial group of Sudanese have lately come to town. There's also a strong Iraqi community. By some odd coincidence, I have seen several young Muslim women having meetings with boyfriends in the city parks. And at one of those big patriotic events, my family and I found ourselves sitting with Iraqis, listening to patriotic music while watching patriotic pyrotechnics. One young lady had a blond, blue-eyed man-friend. He looked comfortable, but only to a point. And I got interested in him and his situation. And everybody was watching the sky."

**F**errum was no Believer.

In that, he felt normal. This was an age when the powers of religion were plainly on the run. The old temples stood empty, except for the rare exceptions populated with worshippers embracing a thin, heartless scripture. Much of the world seemed eager to mock superstition and ritual, and every plaintive cry for God's vengeance was conspicuously ignored. Indeed, despite these heretical attitudes, modern life was abundant and generous and often fat. The sciences constantly generated new understandings and powers, each revolution delivered to all the races and distant creeds. Yet if some supernatural punishment ever became necessary, those same sciences promised more suffering than any Deity sitting in the most perfect Heaven could deliver. Really, Ferrum could not understand why any sober, honest citizen would entertain the preaching of mad souls and charlatans. After all, this was the Day of those twin Geniuses, Invention and Discovery, and hadn't history proved that nothing in the Creation was as half as powerful or a tenth as good as what was best about people?

Yet Rabiah insisted on finding weakness in the fashionable disbelief.

"What do you mean?" asked Ferrum sharply. "What weaknesses do you see?"

"Start with your name," she suggested. "It's old, and it means iron."

"I know what 'Ferrum' means."

"To the ancients, our world was the obvious center of the universe. And since what is heavy must sink, it was only reasonable to assume that the world's heart was made of iron and the rarer metals."

"The core is iron," he agreed, laughing without much heart. "Those old fools happened to get one puzzle right."

"'Ferrum' comes from the Fifth Day." She looked past her newest lover, concentrating with her usual intensity. "That was when the Boy Emperor conquered half of the world's land. Then the Sixth Day began, and an obscure tribe marched across a slightly different half of everything. And then the Seventh Day emerged from the darkness, and the Pale Prophet appeared, claiming to have walked with the True God who told Him to subjugate the world."

"Which those zealots nearly did," Ferrum interjected.

"And then that Day came to its end, and my ancestor stumbled out of the desert, inspiring a holy war that set the scene for our very long Day."

The young woman had a temper. While it was popular to deny the value of stereotypes, Rabiah nonetheless fit the model of her people: She was passionate with a preference for strong opinions. Suggesting she was wrong, even in the most minimal fashion, brought the risk that she would explode with hard words or even a few defiant slaps delivered to her lover's bare chest.

Ferrum managed to restrain his mouth.

"Of course neither of us Believes," she continued. "Yet don't we assume that people should be good to one another, even if it serves their own selfish interests? Don't you hunger for a world where ethics have teeth and decent, generous citizens are called godly?"

He continued to say nothing.

"And now look at the rules and rituals embedded in our major faiths. What do you find waiting there? Codes and commandments—a set of principles that pave the path to excellence."

Ferrum was breathing deeply, staring at the bland, water-stained ceiling above his bed.

"You and I are creatures of science," she continued. "But what is science? And by that, I am asking what it is that our discipline assumes, first and before anything else?"

"Evidence," he offered. "Science demands evidence."

"It needs evidence to live, but that's not what it assumes." She paused for a moment, carefully considering her next words. "The universe has order and meaning. Before anything, science must believe in that. What is true here, on our tiny patch of ground, has to apply everywhere. Scientific principles must be uniform and fair. Because if they are not fair, where's the value in lofty theories that only pretend to explain the questions worth asking?"

"What are you talking about?" he asked, honestly confused.

"I'm talking about God," she admitted. "Not the old gods, who were tiny

and not all that mighty. I mean the kingly Gods from the last Days. They taught us that the universe has a single overriding authority. With wind and floods, they proved what they said, and that made us ready for the Four Natural Forces and the eighty-one known elements."

Ferrum couldn't agree. "What are you arguing here? If we never believed in God, we wouldn't have science today?"

A happy wobble of the head ended with a fetching stare. "What I think . . . well, yes, I do believe that if our ancestors hadn't surrendered to the idea of one viable answer, compelling and perfect, then our minds wouldn't have bothered to chase new ceramics or the principles of gravity, much less waste fortunes probing the depths of the sky."

Ferrum lay still, taking a deep breath and holding it inside as long as possible. Meanwhile, Rabiah laughed and swung one leg over his hips, climbing on top. This was no lover's pose. She was a wrestler holding her opponent's arms flush against the spongy mattress, thick legs wrapped around his thighs and her long black hair falling loose, tickling his chest and belly.

"So everybody is a Believer, even if we don't like thinking so. Is that it?"

She laid her hand on his chest. "The two of us are Believers. Our souls are lashed to the faith of universal order."

"And what about other people?" he asked.

"Give me names."

Ferrum offered candidates from their few shared friends—smart, well-educated souls—and then before she could answer, he mentioned her parents, and his. "Are they all secret Believers, like silly us? Or could they be only what they claim to be?"

"What do they claim to be?"

"Unrepentantly modern, godless and untouched by old foolish ways."

"Some are like us," Rabiah's weight had settled on his middle, her eyes watching him carefully. "But really, most of the world doesn't understand science. Not truly. What people like to do is throw out a few popular phrases, trying to fit in with what they perceive as convention."

"And what about your cousin?" Ferrum asked.

"Which cousin?"

"You know who."

But Rabiah didn't wish to talk about the man. So she changed topics, telling Ferrum, "You know what would happen, if the world ever changed for the worst. . . ."

Her voice trailed off.

"What would happen?"

She shifted her weight. "At the first sign of serious trouble—I guarantee it—every last temple would overflow with clumsy but devout worshippers."

Ferrum watched her pretty face, skeptical about her arguments but unable to refute the words.

"And if our civilization collapsed," she continued, "then even our best scientists would pull out knives and start sacrificing livestock to the Moon and the lost Sisters. And when those desperate gestures didn't appease our old gods, our greatest minds would invent new ones and then happily, happily cut each other's throats. . . .!"

\* \* \*

Ferrum met his difficult lover at the city's largest park—an abandoned silica mine too hilly to be farmed but perfectly suited for tough trees and sedges, with clay-lined ponds in the low spots and tended fields where children and adults could hike and play. He drove to the park after work but before the evening wind died down. On a whim, he had purchased a cheap paper-and-stick kite, and using skills that he hadn't employed for years, he assembled the toy, tied on fresh string and then managed to pull his creation far enough into the air that he could stop running, panting while he admired his achievement.

It was a warm spring evening. The sun was setting, a perfect wind blowing from the north. Ferrum happily looked over his shoulder, the boyish part of him hoping for spectators. Three of the Sisters were still above the horizon, each bright enough to keep the evening pure, but their combined light too dim to feed plants or coax the tired mind into staying awake. He watched the Sisters for a long moment, observing how close they had drawn to each other; and then he glanced back at the ruddy skies to the west. That's when he noticed a small car parked close to his, and inside the car, what looked like a young woman. She was sitting behind the steering wheel, hands across her face, and, even at a distance, she looked as if she was suffering some awful, consuming grief.

Ferrum wasn't an outgoing person. Pretending to see nothing was easy. He focused on his kite, and, as the wind died, its increasing demands. Then the wind vanished, and he had no choice but to reel in the string and carry his toy back to his car. The girl was still sitting close by. Nobody else was visible. She remained behind the wheel, but for the moment, her suffering was done. Sad swollen eyes glanced his way, and he noticed how pretty she was. Then with a mixture of embarrassment and expectation, she smiled: She didn't want to be noticed, but on the other hand, her pain was too large and important to hide away.

In a moment of unusual fortitude, Ferrum approached. "Do you need help, miss?"

For some reason, that was an extremely funny question. She broke into a smart little laugh, and just as suddenly, she was sobbing again.

"I'm sorry," Ferrum muttered, beginning his retreat.

"But I liked watching," she confessed.

"Excuse me?"

"The kite. I enjoyed its dance."

In Ferrum's mind, she was exotic. The colored scarf and the style of her dress made her different from every other woman he normally spoke with. Refugees were fleeing their native lands, desperate to escape a host of political troubles. She must have been among the recent émigrés. Her voice carried a rich accent. Her face and beautiful skin betrayed a history composed of the lost nation's ancient tribes.

Ferrum asked, "Where are you from?"

Laughing, the stranger named his home city.

Of course, she was a naturalized citizen. What was he thinking?

"I'm sorry," he muttered. "That was a stupid question."

The girl saw something worthy of a smiling stare. "You should ask something smart, then."

Ferrum learned her name and pieces of her life story.

It was Rabiah who brought up the possibility of dinner, and Ferrum mentioned that he was free for the rest of the evening.

Unfortunately, she had a previous commitment.

Eventually they settled on the evening after next, and following several meals and two concerts, not to mention the calculations and negotiations common to any romantic venture, their relationship moved into the physical realm.

At that point, Ferrum finally asked about the sadness in the park.

"Oh, that was nothing," Rabiah said with a heavy tone, implying otherwise.

"Nothing?"

"I used to meet my old boyfriend there. That's all."

But her confession wasn't quite honest. It took more weeks of prodding, plus some carefully gathered clues, before the ex-boyfriend's story was told. The man was considerably older than Rabiah, and he was married. He would meet his young girlfriend in the park, and they would make love in the passenger's seat. Rabiah carelessly offered details, letting Ferrum imagine her climbing on top of that old fellow, him yanking down her underwear and shoving his business inside her, enjoying her body until he was spent, or until he had to leave for home and his ugly old wife . . .

"Why are you telling me this?" asked Ferrum, sickened yet aroused.

"What do you think you're doing?"

Now three people were lying in their little bed.

Smiling with a calculated menace, his girlfriend asked, "Do you know who he was? And is?"

"I don't want to," he claimed.

"My cousin," she admitted.

"Oh, God," the agnostic whispered.

"A second cousin, and you needed to know," she claimed. "If we're going to continue seeing each other, darling . . . there will be a moment when you have to meet the man . . ."

Ferrum couldn't help but think along stereotypic lines. "But why? Do you want me to fight with him?"

"Goodness, no." Rabiah laughed softly for a moment or two.

"Is he a jealous fool? Will he attack me, maybe?"

"My cousin is more civilized than either of us. In fact, he's a mathematician, and a great one at that!" Then, with a wink, she added, "But if you'd like . . . if it would make you happy . . . maybe you could slice off his penis. . . ."

Then she broke into wild laughter, and for several moments, her new boyfriend wasn't sure if his embarrassment and horror was the source of her pleasure, or maybe, just maybe, this exotic desert creature expected him to commit some horrible revenge . . .

Five Sisters ruled the evening sky: Mistress Flame, Little Wind, Ocean's Angel, and the Sullen Twins. Out of fascination and fear, ancient peoples had studied those bright bodies, measuring their slow, stately motions; and after so much focus and the occasional insight, it was decided that the



heavens—the sun and moon and every Sister—rode upon a collection of nested spheres, crystalline and perfect. And the world was a perfect sphere sitting at the center of all that existed. And because it was a good story, the ancients decided that each Sister was given to the world by the gods, each lending its distinct magic to the lives of good people everywhere.

Of course those old explanations were flawed, but they allowed those early astronomers to predict how the sky would look in another half year, and after a full lifetime. With bare eyes and persistent calculations, people realized that the Sisters could never huddle close together. Envy had to be the reason; none wished to dilute her beauty with her siblings' glow. But there were years when the solitary Sisters pushed close enough to fill one kite flyer's gaze, while the Sullen Twins stood in the opposite direction, carefully balancing the heavens.

Once in a thousand years, on average, their good world would throw its shadow across the moon; and at the same moment, the Twins would dive behind that lifeless gray rock, allowing themselves to be swallowed whole.

One Day would end, and shortly after that, the Next Day would begin.

But for a little while, darkness and chaos were unleashed on the world. Or so it was said. Threads of evidence did support those legends. Lost cities and early societies had collapsed at the same approximate moment. Chance might be to blame, and of course those first civilizations might have been frail and failing as it was. But whatever the cause, survivors blamed the darkness that lay between the Days. Then for the next thousand years, old women would happily tell their horrific stories to frightened, spellbound young children.

"The Night makes a soul insane," they would claim. "Good families will suddenly fight with their neighbors, and brothers always turn against brothers. Homes are burned; the old laws are forgotten. And then the Twins rise again, and nothing can ever be the same."

"But what do people see?" the children asked. "What did the Night show them?"

"Nobody knows," the old women would promise. "Whatever was there, it was too awful and far too strange to be remembered."

"Then we won't look," young voices proclaimed. "If the Night shows itself, we'll hide indoors. We'll live in our cellars, with sacks tied over our heads."

"And what then? Do you think that you're the first clever people? Make no mistake, little darlings. Wherever you hide, the Night will find you."

Nothing can save a person, particularly when he or she insists on believing in a particular fate. If the entire world decided to remake itself every thousand years, then the Night was a fine excuse, chaos sweeping away what was weak and old so that tiny prophets had their chance to stand on the wreckage, proclaiming new faiths and followings.

Ferrum's grandmother liked to tell the wicked old stories. She would laugh out loud when she described riots and wars and other flavors of mayhem. This was all in the past, of course. The perceptive soul was free to mock the ignorant hordes from Days gone. But she made a critical error—the same mistake repeated by millions of sturdy, doubting adults across the world. She assumed her little grandson would hear about the

Night and its madness, and Ferrum would realize that this was nothing but a fun old story.

Yet young boys have a fondness for worlds that teeter on the brink, ready to collapse into fire and blood.

Ferrum wanted to believe in the Night's power.

"When will the darkness happen?" he asked, his voice soft as a whisper, but fearfully sharp. "Soon, does it?"

"Very soon," she told him.

He imagined going to sleep after this evening's meal, and then waking in the morning to find the world transformed.

"Twenty-four years from now," she continued.

"But that isn't soon," he pointed out.

"I suppose not." She laughed. "Yet for me, it's as good as forever."

"Why?" Ferrum asked, genuinely puzzled.

"Because I won't live long enough to see this next Night." The grim words made the old woman cackle. Already his grandmother's eyes were turning soft and dark, and by year's end she would be living inside her own endless Night—a suffocating experience that would make her bitter, small, and hateful. "But my little Ferrum . . . you'll still be a young man when the Night happens. Probably with your own wife and family to share the experience with. . . ."

The boy couldn't shake the images of insane people fighting in the darkness, setting fires and spilling guts. When terrified, young boys will find something very compelling about mayhem.

The bigger, the sweeter.

"But what does the Night look like?" he asked again. "Does anybody know?"

"Oh, everyone knows what the sky holds," she told him.

But Ferrum didn't. The subject never came to mind before this. He was young and ignorant, curious, and very persistent. From that moment, he would bombard adults with questions about this once-in-a-thousand-years event. He interviewed his parents and teachers and neighborhood adults. And what struck him about their confident answers was that each vision was very similar, but no two were perfectly identical.

Which brought an epiphany that twenty-four years and a considerable amount of education hadn't wrung out of him:

Each eye, no matter how ordinary, inevitably sees its own Night.

Ferrum's grandmother proved to be a flawed prophet. Ferrum became a man, and the Sisters indeed were aligning themselves in accordance with elegant scientific principles. But he stubbornly remained unmarried and childless. There was only Rabiah in his life, and nothing about their relationship seemed secure: Long periods of passionate, desperate love would dissolve with a suddenness that always mystified him, and even when their fight was finished, the tension between them remained so deep and dangerous that a single careless word would surely shatter their love forever.

Their worst battle stemmed directly from the Night. Several years earlier, Ferrum paid a considerable fee to reserve time at an observatory be-

ing built for the occasion. The large mirror and assorted optical equipment cost a modest fortune, but the resulting telescope would reach deep into the sky, harvesting details that larger instruments couldn't achieve on an ordinary evening. Ferrum liked to boast about his investment: It meant that so many heartbeats could be lived with one eye pressed against a viewfinder. And because he loved the girl so much, he gladly promised that he would share half of his time, or nearly so.

But Rabiah didn't appreciate his charity.

"How much did this cost?" she asked, her tone dismissive, even scornful. "This is a one-in-forever event, and what are you planning to do? Catch a glimpse through a tiny sliver of glass?"

"It's more than a glimpse," he responded. "And more than a sliver of glass, for that matter."

"Come with me instead."

"Where?"

She named a place that he didn't know, and then promised, "My entire family is gathering, and hundreds more too. This is our traditional way of meeting the Night. Don't you think a celebration sounds both fun and appropriate?"

He didn't think so, and Ferrum decided on honesty.

The resulting fight went on for a long, painful time.

He finally had enough. Apologizing for his stubbornness, Ferrum said, "Tell me again. Where's this gathering to be?"

The site was far from any city, on a plain shackled by high hills. Nobody was building giant mirrors, but if Ferrum joined Rabiah, he could bring his father's old hunting telescope to watch the sky. He spent a few moments trying to convince himself that this was best, that it would even be worthwhile. But what would he do with his reserved place in line?

"Sell it," Rabiah advised. "You could make back your investment, and probably more too."

The girl might be right, yes.

"But what happens there? What does your traditional celebration mean?"

Rabiah named favorite foods, old dances and music, and then almost as an afterthought, she mentioned the Night's culminating event.

Ferrum cringed.

"What's wrong?"

"A once-in-forever event, and that's what you do?"

"I know it might sound silly," she agreed. But she didn't act joyful or much in the mood for teasing. "In our history, for as long as anyone remembers, my people have met the Night in a very similar way."

"How stupid," he blurted.

No lover would tolerate those words or the tone they were delivered with. But Rabiah's anger was so large and consuming that she couldn't speak, giving Ferrum time to begin making amends.

"I don't mean you're stupid," he offered. "I would never say that."

Then he confessed, "It seems like such a waste, that's all."

Finally, he snapped, "This doesn't make any sense."

She worked on him with silence and her eyes.

"The event of our lifetime," he complained, "and you're letting a tribe of ignorant nomads dictate what you are going to do. . . ?"

Rabiah dropped her gaze.

At last, Ferrum realized how deeply he had hurt her. But he didn't offer apologies. With the last of his resolve, he told himself that she deserved the truth, and maybe in the next Day, she would thank him.

But then his lover suddenly looked up, and with a dry, almost dead voice, she mentioned, "My cousin will be there."

"The cousin you slept with?"

Rabiah didn't rise to the bait. Instead, she just smiled at him. Then for the first time, and last, she told Ferrum, "You are a bright young man, darling. Well-read and thoughtful. But my cousin is smarter than you, and, in ways you'll never be, he is wonderfully wise."

Ferrum lost that fight, and as a result, sold his time on the giant telescope. Just as Rabiah predicted, he made a fat profit—enough to pay for their coming travels. Despite his car's age and several worrisome cracks in the ceramic shell, that is what they drove. Her vehicle's sordid history would be too much of a distraction. They pretended to be married, spending their first evening at an isolated lodge far from the highway. The nearly full moon was still below the horizon. Even without the benefit of an eclipse, the sky proved dark enough to use his father's little telescope. There was a bonewood field nearby, recently harvested and usefully bare. Ferrum set the telescope on a flat stump, four stubby legs holding the tube and lenses steady. Then he focused on the narrow crescent of the Lost Sister—a nearby world of rock and blazingly hot air that showed itself only at dusk and dawn.

When Rabiah bent to look, Ferrum described what was known and what was guessed.

In the earliest days of Creation, their sun was surrounded by dust and countless half-formed worlds. Collisions and near-collisions shaped the history of those worlds; titanic forces shattered crusts, melting each to its core. Debris was flung this way and that. By chance, one world gathered more than its share of the solar system's metals. Then came the final collision: A rogue body from one of the Sisters struck hard, ripping away fat portions of the stony exterior while leaving the precious iron mixed swirling inside the molten stew that remained.

That miserable world became their home, and its former crust pulled itself into their stony moon.

"We won the iron," he mentioned. "Without it and the other metals, we wouldn't be here."

She had heard his lecture before. But Rabiah could be a good listener, even if her lover repeated what both of them knew.

"And if we didn't have our moon," he continued, "then the stone crust under our feet would be too deep and stubborn for volcanoes to crack open. Without volcanoes, minerals wouldn't be recycled. And our carbon cycle would probably collapse. In the end, this would have become a giant version of the Lost Sister. And I wouldn't have you begging for my affections."

"What did you say?" she asked.

Rabiah was only pretending to listen to him, he assumed.

But then she laughed. "You are the beggar, my dear."

"How can you say that?"

"This business about worlds colliding . . . it's a symbolic tale about lust and intercourse and the like . . ."

Maybe she was right. Soon they were making love on the soft ground beside the stump.

Then later, as Rabiah slept and the moon rose, Ferrum focused his telescope on the Twins—ruddy little suns dancing close to one another, illuminating a few dead worlds well beyond the reach of all but the most powerful telescopes.

As he watched the sky, a tiny artificial moon silently spun its way overhead.

Later, he roused his lover and led her to their bed, and they made love again before sleeping longer than they intended. In the morning, they drove fast until their fuel ran low, and then Ferrum picked a random station and parked against an empty nipple. Stepping out of his car, he heard a stranger shouting, "Hello," to somebody.

Innocently, Ferrum made an agreeable gesture, in case he had met this fellow before.

But the stranger was talking to Rabiah. He smiled and said her name, and she smiled back at him, replying, "Hello, Ocher."

This was the infamous cousin, Ferrum realized: A heavy man worn down by one or several infirmities. And the woman riding with him looked very much like his wife would look. She was short and fat, and when she saw the young woman smiling at her husband, her expression said everything.

The fat wife turned away, snapping off a few hard words.

But the cousin—Rabiah's former lover—seemed untroubled. He invested a few moments staring at his replacement, and then he smiled. And suddenly Ferrum found himself grinning too. So this was the cheating husband? The fellow that he'd been jealous of for months? Goodness, he was just a chubby old fool with a homely, nagging wife.

Really, the situation couldn't have been funnier.

Ferrum suddenly wished they'd brought Rabiah's car. What did it matter? The image of that invalid and his girlfriend doing anything in the front seat . . . well, it was sad, even pathetic, and how could he have wasted his worries about the two of them. . . ?

An acquaintance from work purchased Ferrum's time on the new telescope. But before he would agree to the asking price, the buyer wanted to see the equipment and its placement. One evening, the two men drove out of the city, to the high hill where teams of engineers fiddled with gears and lenses and the astonishingly large mirror—a highly orchestrated chaos in full swing. Ferrum's companion didn't seem especially worried that with just a month left, nothing was finished. Indeed, he spent remarkably little time examining the facility or the fancy equipment that would split the light, directing it into dozens of eyepieces. He didn't say two words to the experts who liked nothing better than to break from their labors, explaining their narrow discipline to any interested face. No, the fellow seemed most interested in the view behind them. Standing on the highest knoll, on a pile of weathered sandstone, he looked back at their city and the dark swatches of irrigated farmland, bonewood and lickbottom trees dark with the season. And with a matter of fact tone, he declared, "Soon all this will be swept away."

Ferrum asked, "What do you mean?"

The man's intentions were obvious, at least to him. So obvious that he said nothing, his mouth closed for a long moment, perhaps expecting his companion to suddenly say, "Oh, swept away. I didn't hear you with the wind. Yes, I know exactly what you mean."

But Ferrum didn't understand, and he asked his question again.

They were workmates, not friends. But Ferrum's companion was as smart as him, or smarter, and he was definitely better read in matters of history and politics. With a devotion to the past, the co-worker could discuss the ebb and flow of civilizations, the relative strengths of different governments, and the dangers inherent in ignorance and blind trust. He was particularly fond of the great men: Those godly names that everybody recognized, even when few understood the bloody particulars of their glorious lives.

Ferrum's companion studied him, as if examining his soul for flaws. Then he looked back down the hill, saying to the wind, "The Night will remake the world."

It was an old sentiment, and perhaps not unexpected.

But Ferrum felt surprised nonetheless. "It's just darkness," he muttered. "And we know what we'll see—"

"Do we?"

"Of course." History might not be Ferrum's favorite terrain, but he felt at ease with the sciences. "I can tell you exactly what you're going to find when you look through that telescope."

"So it's not worth my money?" the man asked.

Ferrum hesitated. Was this a bargaining ploy?

"If you 'know' what you'll see, there's no point in looking. At the sky, or anything else." The man offered a wicked little laugh, adding, "That girlfriend of yours. You've seen her naked once or twice, so why look at her body again?"

"Enough," Ferrum warned.

"But do you see my point? When you and I set our eyes on anything, anything at all, we refresh our memories. Make new what is familiar. And if we're very lucky, we might even see a detail or two that we somehow missed with every past glance."

For an instant, Rabiah's wondrous body drifted before Ferrum's eyes.

Then the man continued, pointing out, "In another month, countless people are going to look through these telescopes and see the sky in a new way. Everyone will witness the Night in its full glory. Unless of course you're unfortunate enough to be stuck on the Wax Islands or the Gray Continent."

Those bits of land were on the far, daylight side of the world.

"I agree with you, Ferrum. Intellectually, yes, we know exactly what the Night brings. But if you study history as I have . . . well, there's only one conclusion: Each Day brings its revolution."

"Because we expect change." In a charitable mood, Ferrum would concede this point. "Self-fulfilling prophecies."

But his companion dismissed that easy answer.

"Do you think something mystical is at work here?" Ferrum asked. "Do you believe in an Almighty hand?"

"What I believe . . ."



Then the wind gusted, and the voice hesitated.

Ferrum looked over his shoulder, tired of their game.

"Explanations don't matter much," the fellow claimed. "I accept the possibility that one of our Gods, or even some unrecognized scientific principle, might be at work. But mostly, I believe everything changes because nothing can stay the same." The smile was joyous, the eyes grim. "It is the nature of people. Of history and our world. The old must be swept aside, my friend. And what better place to begin than with the Dawn?"

Ten millions years ago, an elderly shield volcano choked on its own magma, and moments later, a single titanic blast flung rock and dust across the sky. The surrounding countryside was scorched and then buried. Every end of the world saw the sun grow dim, and no doubt there were places where a different Night held sway, too little light finding its way down to hungry leaves and a billion blind, terrified eyes. The resulting winter would have been sudden and years in duration. Countless species must have gone extinct, while others prospered in the ripe chaos. But then the rich dusts finally fell to the ground, and the climate found its new balance, and with the patient hands of wind and rain, the remains of that gutted volcano were gradually carried away.

What remained was a ring of dark mountains, and in the middle, a plain as round as a coin and as flat. The mountains helped keep the country too dry for crops or trees, and most importantly, those rounded peaks practically guaranteed that the skies would remain free of clouds. A few towns were scattered across the wide emptiness—just enough to supply food and water to the crowds coming from the cities. Every little highway was jammed with cars. The sun was high and bright, and driving out onto the plain, Ferrum understood why Rabiah's tribe had picked this location. He was thinking about the evening to come, anticipation pushing aside every lesser emotion. But then Rabiah said proudly, "Do you know who picked this site for us?"

"Your cousin," he guessed.

"I have quite a few cousins," Rabiah reminded him. "But it was Ocher, yes. Of course it was."

"The cheating husband," he muttered.

"Why don't you ever say his name?"

Ferrum replied with a thoughtful silence, and then asked, "How much farther?"

They arrived at the designated location in the early afternoon. Where a volcanic crater once stood, more than a thousand strangers were building a busy, temporary city. Men were pitching colorful tents, setting up long tables, and testing the fires in a hundred big camp stoves. Women were chatting happily, sweeping out the tents and assembling the beginnings of the evening feast. Children seemed to be everywhere, and Ferrum was glad to see them: The adults used their mother tongue, but the youngsters screamed and complained in the language he knew.

Ferrum had met Rabiah's parents, but it took him a few moments to recognize them now. Instead of the drab clothes of business people, they were dressed in the brilliant robes of their desert tradition, and instead



of being reserved for the sake of propriety, they were outgoing, even giddy. They greeted both their daughter and her boyfriend with warm hands and quick kisses. "I was afraid you were going to miss all this," the mother confessed. Her voice was very much like her daughter's, but slowed by an accent that made her words difficult to understand. Turning to Ferrum, she asked, "Did you have trouble finding us?"

Ferrum didn't want to mention oversleeping, since that might bring up the matter of sharing one bed. So he offered a simple, pragmatic lie. "It's my fault. I took a wrong turn at Damp Sand."

"You did not," Rabiah snapped.

Ferrum hesitated.

"We were up late watching the sky," Rabiah confessed.

The mother's eyes twinkled. "More than just sky-watching, I hope."

With a dismissive gesture, Rabiah said, "He did just enough for me. Yes."

Then both women broke into a hard, shared laugh.

Ferrum was embarrassed. He dipped his head while looking at the father, trying to read emotions that hid behind a broad, painfully polite smile.

When he and Rabiah were alone again, he asked, "Why did you say that?"

"What did I say?" she replied. And then, as if suddenly understanding the simple question, she added, "My parents are thrilled to have a responsible man in their little girl's life. In fact, I think they adore you. At least a little bit."

"Adore me?"

"As long as you keep me happy, they will."

But Rabiah's happiness was never easy, and to make matters worse, Ferrum had the impression that his own feelings, good or lousy, were inconsequential when it came to their relationship.

The remains of that afternoon brought introductions to cousins and aunts and family friends, plus people who Rabiah didn't know but who felt curious about this fellow of hers. Almost every name offered was forgotten before the introduction was finished. A hundred polite conversations ended in uncomfortable silence. Soon the faces surrounding Ferrum looked much the same, and he found himself thinking about inbreeding and other uncharitable possibilities.

The feast proved amazing, and miserable. By convention, young men shared the same long tables while the single women were safe at the far end of the field. Strangers filled the pillows beside Ferrum. Most were conversant in his language but few were willing to use it. Foods he had tasted on occasion were suddenly heaped high on his platter-sized plate, every bite laced with spiced salts that burned his mouth and throat, and later, his belly. When the feast was finished, he lugged his swollen carcass to a large black tent that Rabiah had pointed out earlier. "I'll meet you there," she had promised. But standing in the tent's long shadow, it occurred to Ferrum that his lover hadn't specified an exact time for this meeting. Where was she? Was that her standing over there? But no, Rabiah had been wearing trousers and a simple blouse, while most young women were showing off the gaudy dresses of their home country, legs and arms and the long elegant necks covered with jewelry, their feet balanced on impossibly delicate shoes.

She was testing him, Ferrum hoped.

Because every other possibility seemed more awful.

Suddenly a pair of young men approached. They wore smiles and tool belts, and the nearest fellow called to him by name before saying, "Come with us."

"Where to?" Ferrum asked.

"Over there," he said with a wave. "She told us you would help us."

"You mean Rabiah?"

Just mentioning the name made both strangers laugh. Then the second man, wrestling with the unfamiliar language, said, "Come. Help."

"With what?"

"The show!" the first man shouted. "We are slow. We need cool hands, please."

Ferrum followed them through the noisy, happy crowd. He couldn't see how he might help, but at least he wasn't standing in one place, waiting for a woman who might never appear again.

"Have I met you already?" he asked the first man.

That deserved another laugh.

"I'm sorry," Ferrum continued. "I don't remember names—"

"Rabiah," the man interrupted.

"Excuse me?"

The stranger stopped and turned, and with his pleasure receding into some other emotion, he said, "You are lucky. Very lucky, you know."

"In what way?"

The second stranger asked a question of his companion.

An answer was offered—an impatient bark of syllables. And then the first stranger turned back to Ferrum, regarding him with a careful gaze before saying, "Or maybe you are not fortunate. Too soon to say, maybe."

Again, the three men walked on. Eventually they fell into the open, and later, far from the celebratory racket, they were standing on a flat-topped little knoll. Suddenly Ferrum understood what was happening, and after a lot of consideration, he still didn't approve. But what else could he do? Perhaps twenty other men were busy with this very important work. Rare skills were on display. What Ferrum was qualified to do was uncoil the new copper wires while walking quickly from place to place. It would be best if the job was finished before evening, and the men were thankful for his help. After a while, there was an odd moment when Ferrum completely forgot his old objections. He discovered that he was enjoying this uncoiling and stretching of the wires, and later, the careful planting of long tubes. Then a gentleman that he didn't know smiled at him and said, "Good," and Ferrum's reaction was to smile back and bow a little, saying, "Thank you," with relish.

The sun set before they were finished.

Once, then again, older men approached to complain, mentioning the time remaining and the sorry state of affairs. But the full moon made their work easy enough, and they were done even before the world's slow shadow began to obliterate the sky's brightest light.

Ferrum joyfully accepted the thanks of his new friends, and then he returned alone to the black tent, imagining Rabiah waiting for him. But the

tent had been moved or dismantled, and his lover was still missing. Where could she be? He walked about the camp, searching for everything that was lost. He wanted to retreat to the car and grab his telescope, but there wasn't much time left. The moon was already half-consumed, the Sullen Sisters hovering close to its left limb. Ferrum spent a few moments listing the ways that the woman had made his life miserable, and then he stopped walking, closing his eyes while wishing he was anywhere else in the world.

Somebody called his name.

Ferrum turned and opened his eyes, finding a familiar face, and then that face said to him, "You look so very unhappy."

"Hello, Ocher."

"I know where we can find a good telescope," the old man mentioned. "But we don't have very much time. This way, please."

And without hesitation, Ferrum fell in beside his newest friend.

Ocher's telescope was set on flat ground outside the campground. It was no hunter's tool meant to search for herds of poor-lillies and fat blackbottoms, but instead it was a precise astronomical instrument with three heavy legs and a broad mirror, tiny gears and motors moving the tube along the same course that the sky took. Ferrum's long first look showed him the brilliant snows of the moon's southern pole—a frigid terrain famous for killing the only explorers to ever set foot on it—and then the world's shadow fell over that wasteland, a rainbow flash marking the sunlight as it passed through the same air he was now breathing in gulps.

"Did you hear?" Ocher asked. "It is raining at home."

He looked up from the eyepiece. "Now?"

"A colleague called me with the sad news," his companion allowed. "A squall line is sweeping out of the west. Probably gone before sunrise, but there's going to be a lot of angry souls in its wake."

Ferrum imagined hundreds of novice astronomers standing beside that expensive, useless telescope, faces glistening with the rain, every sorry voice screaming at the profoundly unfair sky.

His personal gloom began to lift, just a little.

The moon was soon immersed in the night.

Ocher pulled a small timepiece from his shirt pocket, adjusted his telescope's aim and then stepped back again. "If you wish, watch the Sisters vanish."

"Don't you want to?"

"Oh, I'm not being generous," said Ocher. "I just want my eyes kept in the dark, to help them adapt."

Those distant suns looked like twin gemstones, brilliant but cold. Ferrum's vision blurred, but he watched carefully as the lightless bulk of another world rose to meet them. Then thin dry atmosphere made one flicker, then the other, and then the first Sister touched the rim of a crater, and it vanished.

"I hope she's watching," Ferrum muttered.

"I am sure she is," Ocher promised. Then he made a low sound, as if intending to say something else . . . or ask his own question, perhaps . . . but that's when the final Sister plunged out of sight, and the lightless air was

filled with gasps and exclamations, old prayers and inarticulate screams as old as their species.

The Night had come.

Ferrum jumped back from the telescope.

Like a startled animal, he looked up. His eyes chose a random line, and after wiping the eyes dry, he stared as hard as he could into the new sky. But what was he seeing? Somehow his mind had forgotten a thousand lessons of science, and for that delicious moment, he felt scared and happy, and confused, and absolutely enthralled. There was nothing to see; there was nothing but black upon black. That was because there was nothing there. Except for the Sisters and their own sun, the universe was devoid of meaningful light. Eyes a thousand times stronger than Ferrum's would do no better. Only mirrors that were a billion times more powerful could work, and then only when thrown high above the world's atmosphere . . . and even the luckiest of those telescopes would gather in nothing but a few weak photons—odd travelers from regions too distant and ancient to resolve with any confidence whatsoever.

This was the Creation, utterly empty and divinely cold.

Save for this one tiny realm, of course.

"Where is that girl?" he growled.

"Standing directly behind you," said Rabiah, her deep voice laughing.

Then despite telling himself not to, Ferrum turned, ignoring the sky in order to reach out and grab a body and face that he knew better than he knew anything, including his own sloppy pounding heart.

The three of them stood close together in the absolute Night.

The hollering and chants in the camp gradually fell away, becoming gentle conversation and reflective silence, and at some imprecise point Ocher began to talk, using surprisingly few words to explain the basics of his life's work.

"Has Rabiah told you?" he began. "I'm a failed scientist. I tried physics twice before falling into mathematics. But I'm very good with calculations, and my old school chums use me to test their ideas. 'Do my equations balance, Ocher? Are they pretty? And are we telling the truth about the universe?'"

"What about the universe?" Ferrum managed.

"It is far larger than we can see," the genius reported. "There is physical evidence to support that hypothesis. Microwave radiations. Exhausted particles from hot, bright places. Even the shape of the cold holds its clues." He had a pleasant voice, smooth and almost musical at times. "The true universe is unimaginably grand, and it doesn't have to be as smooth and empty as we find it here. Hydrogen and helium can pull together, with help. Through simple probability, it can be shown that there must be regions full of suns and worlds like ours, and presumably, worlds very different from the handful that we know well. \*

"But not our realm, no.

"And so long as we think in small ways, this is where we will be trapped, and for all of our Days."

A sudden shout interrupted the lecture. From the knoll where Ferrum

had helped uncoil wire, someone shouted a single command . . . and then, on that signal, a soft wet woosh could be heard.

Ferrum saw red sparks rising in the darkness.

Rabiah's warm hand slipped inside his grip, and now she leaned hard against him, waiting for a kiss.

Then the first explosive was detonated above the flat barren plain—a bright greenish light that flung stars in every direction, accompanied by a host of bright sharp blasts.

A cheer rose up with a wave of rockets.

Rabiah had explained the tradition this way: In ancient times, the desert people were never caught unaware of the Night. Their open country was the best place to watch the sky, and when the heavens warned of darkness coming, scarce wood was piled high. When it was impossible to see, great bonfires were set ablaze. The tribes feared that the gods would forget what light was if none could be seen, and that was how people ensured that the Sullen Sisters would find their way to the other side of the moon.

In recent times, bonfires gave way to more interesting pyrotechnics.

Each wave of rockets was bigger than the last, and despite his doubts, Ferrum found himself spellbound. The colors; the noise; the wild patterns burning into his eyes: The show was spectacular and lovely, and thrilling, and he didn't mind that the darkness was being pushed away. He smelled the burnt powder and his own excitement, and he felt Rabiah's wonderful body pressing hard against him. When the fourth wave exploded, he looked into her face. When the fifth broke, he clumsily pawed her. Then came the sixth wave, and he thought to look for Ocher. Her one-time lover was standing beside his telescope, his hands on the tube but his gaze watching the nearer spectacle. Ferrum walked to him. Together, they watched the seventh salvo of rockets head skyward, and just before the carefully timed blasts, he put his mouth against the man's ear, asking, "What did you mean?"

"Mean?" the man replied.

Then neither could hear anything but the noisy rainbows flying overhead.

When the rockets paused, Ferrum said, "If we think in small ways, we will be trapped?"

"Yes," said Ocher.

"But what is a large way to think?"

The eighth flight of rockets was the largest—a thunderous fleet of suicidal machines arcing higher and higher into the smoke-rich sky—and as they watched the grand ascent, Ocher said simply, "Space can be cut, if you know how. If you focus enough energy in the proper ways. And then a brave soul can leap across a trillion light-years in the time it takes one Night to pass."

The heavens were suddenly filled with ornate figures.

Ferrum retreated to the girl again.

"What did you ask him?" said Rabiah.

"What?"

"Did you ask him about me?"

"No," he confessed. "Not at all." Then as the roaring in his ears fell away, Ferrum added, "Ocher was telling me about tomorrow, and about the next revolution to come . . ." ○

## STAR PEOPLE

If star people  
were the world  
each of us would be

the brightest light  
in our own universe  
until we were drawn

by another star person  
into a blinding binary  
dance with comets and

moons and asteroids,  
barren worlds and  
planets where fauna

and flora thrive and  
civilizations rise,  
intimately coupled

in concentric orbits,  
our singular paths  
changed forever

by the inexplicable  
pull of gravity's  
dual attraction.

—Bruce Boston



# NIGHTFALL

Isaac Asimov

The thirtieth anniversary year of *Asimov's Science Fiction* felt a bit incomplete without a story by the magazine's founder. After I received Robert Reed's delightful homage, "Night Calls," I reread Isaac's classic. Doing so brought back to me the full power of the original. Bob summed up his own reaction upon first reading "Nightfall" this way: "I remember clearly the wondrous excitement that came over me, not when civilization was ending, but when the night sky proved infinitely more interesting than mine." Publishing this story as the centerpiece of a triptych of tales about the inspiring glory of the celestial vault seemed an apt tribute to the enduring influence of this science fiction master.

*"If the stars should appear one night in a thousand years, how would men believe and adore, and preserve for many generations the remembrance of the city of God!"*

—Emerson

Aton 77, director of Saro University, thrust out a belligerent lower lip and glared at the young newspaperman in a hot fury.

Theremon 762 took that fury in his stride. In his earlier days, when his now widely syndicated column was only a mad idea in a cub reporter's mind, he had specialized in "impossible" interviews. It had cost him bruises, black eyes, and broken bones; but it had given him an ample supply of coolness and self-confidence.

So he lowered the outthrust hand that had been so pointedly ignored and calmly waited for the aged director to get over the worst. Astronomers were queer ducks, anyway, and if Aton's actions of the last two months meant anything, this same Aton was the queer-duckiest of the lot.

Aton 77 found his voice, and though it trembled with restrained emotion, the careful, somewhat pedantic, phraseology, for which the famous astronomer was noted, did not abandon him.

"Nightfall" by Isaac Asimov originally appeared in *Astounding Science Fiction* in September 1941. Copyright © 1941 by Street & Smith Publications; copyright renewed, © 1968 by Isaac Asimov, and © 1996 by Nightfall, Inc.



"Sir," he said, "you display an infernal gall in coming to me with that impudent proposition of yours."

The husky telephotographer of the Observatory, Beenay 25, thrust a tongue's tip across dry lips and interposed nervously, "Now, sir, after all—"

The director turned to him and lifted a white eyebrow. "Do not interfere, Beenay. I will credit you with good intentions in bringing this man here; but I will tolerate no insubordination now."

Theremon decided it was time to take a part. "Director Aton, if you'll let me finish what I started saying I think—"

"I don't believe, young man," retorted Aton, "that anything you could say now would count much as compared with your daily columns of these last two months. You have led a vast newspaper campaign against the efforts of myself and my colleagues to organize the world against the menace which it is now too late to avert. You have done your best with your highly personal attacks on me to make the staff of this Observatory objects of ridicule."

The director lifted the copy of the *Saro City Chronicle* on the table and shook it at Theremon furiously. "Even a person of your well-known impudence should have hesitated before coming to me with a request that he be allowed to cover today's events for his paper. Of all newsmen, you!"

Aton dashed the newspaper to the floor, strode to the window and clasped his arms behind his back.

"You may leave," he snapped over his shoulder. He stared moodily out at the skyline where Gamma, the brightest of the planet's six suns, was setting. It had already faded and yellowed into the horizon mists, and Aton knew he would never see it again as a sane man.

He whirled. "No, wait, come here!" He gestured peremptorily. "I'll give you your story."

The newsman had made no motion to leave, and now he approached the old man slowly. Aton gestured outward, "Of the six suns, only Beta is left in the sky. Do you see it?"

The question was rather unnecessary. Beta was almost at zenith; its ruddy light flooding the landscape to an unusual orange as the brilliant rays of setting Gamma died. Beta was at aphelion. It was small, smaller than Theremon had ever seen it before, and for the moment it was undisputed ruler of Lagash's sky.

Lagash's own sun, Alpha, the one about which it revolved, was at the antipodes; as were the two distant companion pairs. The red dwarf Beta—Alpha's immediate companion—was alone, grimly alone.

Aton's upturned face flushed redly in the sunlight. "In just under four hours," he said, "civilization, as we know it, comes to an end. It will do so because, as you see, Beta is the only sun in the sky." He smiled grimly. "Print that! There'll be no one to read it."

"But if it turns out that four hours pass—and another four—and nothing happens?" asked Theremon softly.

"Don't let that worry you. Enough will happen."

"Granted! And *still*—if nothing happens?"

For a second time, Beenay 25 spoke, "Sir, I think you ought to listen to him."

Theremon said, "Put it to a vote, Director Aton."

There was a stir among the remaining five members of the Observatory staff, who till now had maintained an attitude of wary neutrality.

"That," stated Aton flatly, "is not necessary." He drew out his pocket watch. "Since your good friend, Beenay, insists so urgently, I will give you five minutes. Talk away."

"Good! Now, just what difference would it make if you allowed me to take down an eyewitness account of what's to come? If your prediction comes true, my presence won't hurt; for in that case my column would never be written. On the other hand, if nothing comes of it, you will just have to expect ridicule or worse. It would be wise to leave that ridicule to friendly hands."

Aton snorted. "Do you mean yours when you speak of friendly hands?"

"Certainly!" Theremon sat down and crossed his legs. "My columns may have been a little rough at times, but I gave you people the benefit of the doubt every time. After all, this is not the century to preach 'the end of the world is at hand' to Lagash. You have to understand that people don't believe the 'Book of Revelations' any more, and it annoys them to have scientists turn about face and tell us the Cultists are right after all—"

"No such thing, young man," interrupted Aton. "While a great deal of our data has been supplied us by the Cult, our results contain none of the Cult's mysticism. Facts are facts, and the Cult's so-called mythology *has* certain facts behind it. We've exposed them and ripped away their mystery. I assure you that the Cult hates us now worse than you do."

"I don't hate you. I'm just trying to tell you that the public is in an ugly humor. They're angry."

Aton twisted his mouth in derision. "Let them be angry."

"Yes, but what about tomorrow?"

"There'll be no tomorrow!"

"But if there is. Say that there is—just to see what happens. That anger might take shape into something serious. After all, you know, business has taken a nose dive these last two months. Investors don't really believe the world is coming to an end, but just the same they're being cagey with their money until it's all over. Johnny Public doesn't believe you, either, but the new spring furniture might as wait wait a few months—just to make sure.

"You see the point. Just as soon as this is all over, the business interests will be after your hide. They'll say that if crackpots—begging your pardon—can upset the country's prosperity any time they want simply by making some cockeyed prediction—it's up to the planet to prevent them. The sparks will fly, sir."

The director regarded the columnist sternly. "And just what were you proposing to do to help the situation?"

"Well," grinned Theremon, "I was proposing to take charge of the publicity. I can handle things so that only the ridiculous side will show. It would be hard to stand, I admit, because I'd have to make you all out to be a bunch of gibbering idiots; but if I can get people laughing at you, they might forget to be angry. In return for that, all my publisher asks is an exclusive story."

Beenay nodded and burst out, "Sir, the rest of us think he's right. These last two months we've considered everything but the million-to-one chance that there is an error somewhere in our theory or in our calculations. We ought to take care of that, too."

There was a murmur of agreement from the men grouped about the table, and Aton's expression became that of one who found his mouth full of something bitter and couldn't get rid of it.

"You may stay if you wish, then. You will kindly refrain, however, from hampering us in our duties in any way. You will also remember that I am in charge of all activities here, and in spite of your opinions as expressed in your columns, I will expect full co-operation and full respect—"

His hands were behind his back, and his wrinkled face thrust forward determinedly as he spoke. He might have continued indefinitely but for the intrusion of a new voice.

"Hello, hello, hello!" It came in a high tenor, and the plump cheeks of the newcomer expanded in a pleased smile. "What's this morgue-like atmosphere about here? No one's losing his nerve, I hope."

Aton started in consternation and said peevishly, "Now what the devil are you doing here, Sheerin? I thought you were going to stay behind in the Hideout."

Sheerin laughed and dropped his tubby figure into a chair, "Hideout be blowed! The place bored me. I wanted to be here, where things are getting hot. Don't you suppose I have my share of curiosity? I want to see these Stars the Cultists are forever speaking about." He rubbed his hands and added in a soberer tone, "It's freezing outside. The wind's enough to hang icicles on your nose. Beta doesn't seem to give any heat at all, at the distance it is."

The white-haired director ground his teeth in sudden exasperation. "Why do you go out of your way to do crazy things, Sheerin? What kind of good are you around here?"

"What kind of good am I around here?" Sheerin spread his palms in comical resignation. "A psychologist isn't worth his salt in the Hideout. They need men of action and strong, healthy women that can breed children. Me? I'm a hundred pounds too heavy for a man of action, and I wouldn't be a success at breeding children. So why bother them with an extra mouth to feed? I feel better over here."

Theremon spoke briskly, "Just what is the Hideout, sir?"

Sheerin seemed to see the columnist for the first time. He frowned and blew his ample cheeks out. "And just who in Lagash are you, redhead?"

Aton compressed his lips and then muttered sullenly, "That's Theremon 762, the newspaper fellow. I suppose you've heard of him."

The columnist offered his hand. "And, of course, you're Sheerin 501 of Saro University. I've heard of you." Then he repeated, "What is this Hideout, sir?"

"Well," said Sheerin, "we have managed to convince a few people of the validity of our prophecy of—er—doom, to be spectacular about it, and those few have taken proper measures. They consist mainly of the immediate members of the families of the Observatory staff, certain of the fac-

ulty of Saro University and a few outsiders. Altogether, they number about three hundred, but three quarters are women and children."

"I see! They're supposed to hide where the Darkness and the stars can't get at them, and then hold out when the rest of the world goes poof."

"If they can. It won't be easy. With all of mankind insane; with the great cities going up in flames—environment will not be conducive to survival. But they have food, water, shelter, and weapons—"

"They've got more," said Aton. "They've got all our records, except for what we will collect today. Those records will mean everything to the next cycle, and *that's* what must survive. The rest can go hang."

Theremon whistled a long, low whistle and sat brooding for several minutes. The men about the table had brought out a multichess board and started a six-member game. Moves were made rapidly and in silence. All eyes bent in furious concentration on the board. Theremon watched them intently and then rose and approached Aton, who sat apart in whispered conversation with Sheerin.

"Listen," he said, "let's go somewhere where we won't bother the rest of the fellows. I want to ask some questions."

The aged astronomer frowned sourly at him; but Sheerin chirped up, "Certainly. It will do me good to talk. It always does. Aton was telling me about your ideas concerning world reaction to a failure of the prediction—and I agree with you. I read your column pretty regularly, by the way, and as a general thing I like your views."

"Please, Sheerin," growled Aton.

"Eh? Oh, all right. We'll go into the next room. It has softer chairs, anyway."

There *were* softer chairs in the next room. There were also thick red curtains on the windows and a maroon carpet on the floor. With the bricky light of Beta pouring in, the general effect was one of dried blood.

Theremon shuddered. "Say, I'd give ten credits for a decent dose of white light for just a second. I wish Gamma or Delta were in the sky."

"What are your questions?" asked Aton. "Please remember that our time is limited. In a little over an hour and a quarter we're going upstairs, and after that there will be no time to talk."

"Well, here it is." Theremon leaned back and folded his hands on his chest. "You people seem so all fired serious about this that I'm beginning to believe you. Would you mind explaining what it's all about?"

Aton exploded, "Do you mean to sit there and tell me that you've been bombarding us with ridicule without even finding out what we've been trying to say?"

The columnist grinned sheepishly. "It's not that bad, sir. I've got the general idea. You say that there is going to be a world-wide Darkness in a few hours and that all mankind will go violently insane. What I want now is the science behind it."

"No, you don't. No, you don't," broke in Sheerin. "If you ask Aton for that—supposing him to be in the mood to answer at all—he'll trot out pages of figures and volumes of graphs. You won't make head or tail of it. Now if you were to ask *me*, I could give you the layman's standpoint."

"All right; I ask you."

"Then first I'd like a drink." He rubbed his hands and looked at Aton.

"Water?" grunted Aton.

"Don't be silly!"

"Don't you be silly. No alcohol today. It would be too easy to get my men drunk. I can't afford to tempt them."

The psychologist grumbled wordlessly. He turned to Theremon, impaled him with his sharp eyes, and began.

"You realize, of course, that the history of civilization on Lagash displays a cyclic character—but I mean, *cyclic*!"

"I know," replied Theremon cautiously, "that that is the current archaeological theory. Has it been accepted as a fact?"

"Just about. In this last century it's been generally agreed upon. This cyclic character is—or rather, was—one of *the* great mysteries. We've located series of civilizations, nine of them definitely, and indications of others as well, all of which have reached heights comparable to our own, and all of which, without exception, were destroyed by fire at the very height of their culture.

"And no one could tell why. All centers of culture were thoroughly gutted by fire, with nothing left behind to give a hint as to the cause."

Theremon was following closely. "Wasn't there a Stone Age, too?"

"Probably, but as yet, practically nothing is known of it, except that men of that age were little more than rather intelligent apes. We can forget about that."

"I see. Go on!"

"There have been explanations of these recurrent catastrophes, all of a more or less fantastic nature. Some say there are periodic rains of fire; some that Lagash passes through a sun every so often; some even wilder things. But there is one theory, quite different from all of these, that has been handed down over a period of centuries."

"I know. You mean this myth of the 'Stars' that the Cultists have in their 'Book of Revelations.'"

"Exactly," rejoined Sheerin with satisfaction. "The Cultists said that every two thousand and fifty years Lagash entered a huge cave, so that all the suns disappeared, and there came *total darkness all over the world*! And then, they say, things called Stars appeared, which robbed men of their souls and left them unreasoning brutes, so that they destroyed the civilization they themselves had built up. Of course, they mix all this up with a lot of religio-mystic notions, but that's the central idea."

There was a short pause in which Sheerin drew a long breath. "And now we come to the Theory of Universal Gravitation." He pronounced the phrase so that the capital letters sounded—and at that point Aton turned from the window, snorted loudly, and stalked out of the room.

The two stared after him, and Theremon said, "What's wrong?"

"Nothing in particular," replied Sheerin. "Two of the men were due several hours ago and haven't shown up yet. He's terrifically short handed, of course, because all but the really essential men have gone to the Hide-out."

"You don't think the two deserted, do you?"

"Who? Faro and Yimot? Of course not. Still, if they're not back within the hour, things would be a little sticky." He got to his feet suddenly, and his eyes twinkled. "Anyway, as long as Aton is gone—"

Tiptoeing to the nearest window, he squatted, and from the low window box beneath withdrew a bottle of red liquid that gurgled suggestively when he shook it.

"I *thought* Aton didn't know about this," he remarked as he trotted back to the table. "Here! We've only got one glass so, as the guest you can have it. I'll keep the bottle." And he filled the tiny cup with judicious care.

Theremon rose to protest, but Sheerin eyed him sternly. "Respect your elders, young man."

The newsman seated himself with a look of pain and anguish on his face. "Go ahead, then, you old villain."

The psychologist's Adam's apple wobbled as the bottle upended, and then with a satisfied grunt and a smack of the lips, he began again.

"But what do you know about gravitation?"

"Nothing, except that it is a very recent development, not too well established, and that the math is so hard that only twelve men in Lagash are supposed to understand it."

"*Tcha!* Nonsense! Baloney! I can give you all the essential math in a sentence. The Law of Universal Gravitation states that there exists a cohesive force among all bodies of the universe, such that the amount of this force between any two given bodies is proportional to the product of their masses divided by the square of the distance between them."

"Is that all?"

"That's enough! It took four hundred years to develop it."

"Why that long? It sounded simple enough, the way you said it."

"Because great laws are not divined by flashes of inspiration, whatever you may think. It usually takes the combined work of a world full of scientists over a period of centuries. After Genovi 41 discovered that Lagash rotated about the sun Alpha, rather than vice versa—and that was four hundred years ago—astronomers have been working. The complex motions of the six suns were recorded and analyzed and unwoven. Theory after theory was advanced and checked and counterchecked and modified and abandoned and revived and converted to something else. It was a devil of a job."

Theremon nodded thoughtfully and held out his glass for more liquor. Sheerin grudgingly allowed a few ruby drops to leave the bottle.

"It was twenty years ago," he continued after remoistening his own throat, "that it was finally demonstrated that the Law of Universal Gravitation accounted exactly for the orbital motions of the six suns. It was a great triumph."

Sheerin stood up and walked to the window, still clutching his bottle. "And now we're getting to the point. In the last decade, the motions of Lagash about Alpha were computed according to gravity, and *it did not account for the orbit observed*; not even when all perturbations due to the other suns were included. Either the law was invalid, or there was another, as yet unknown, factor involved."

Theremon joined Sheerin at the window and gazed out past the wooded



slopes to where the spires of Saro City gleamed bloodily on the horizon. The newsman felt the tension of uncertainty grow within him as he cast a short glance at Beta. It glowered redly at zenith, dwarfed and evil.

"Go ahead, sir," he said softly.

Sheerin replied, "Astronomers stumbled about for years, each proposed theory more untenable than the one before—until Aton had the inspiration of calling in the Cult. The head of the Cult, Sor 5, had access to certain data that simplified the problem considerably. Aton set to work on a new track.

"What if there were another nonluminous planetary body such as Lagash? If there were, you know, it would shine only by reflected light, and if it were composed of bluish rock, as Lagash itself largely is, then in the redness of the sky, the eternal blaze of the suns would make it invisible—drown it out completely."

Theremon whistled, "What a screwy idea!"

"You think *that's* screwy? Listen to this: Suppose this body rotated about Lagash at such a distance and in such an orbit and had such a mass that its attraction would exactly count for the deviations of Lagash's orbit from theory—do you know what would happen?"

The columnist shook his head.

"Well, sometimes this body would get in the way of a sun." And Sheerin emptied what remained in the bottle at a draft.

"And it does, I suppose," said Theremon flatly.

"Yes! But only one sun lies in its plane of revolutions." He jerked a thumb at the shrunken sun above. "Beta! And it has been shown that the eclipse will occur only when the arrangement of the suns is such that Beta is alone in its hemisphere and at a maximum distance, at which time the moon is invariably at minimum distance. The eclipse that results, with the moon seven times the apparent diameter of Beta, covers all of Lagash and lasts well over half a day, so that no spot on the planet escapes the effect. *That eclipse comes once every two thousand and forty nine years.*"

Theremon's face was drawn into an expressionless mask. "And that's my story?"

The psychologist nodded. "That's all of it. First the eclipse which will start in three quarters of an hour—then universal Darkness, and, maybe, these mysterious Stars—then madness, and end of the cycle."

He brooded. "We had two months' leeway—we at the Observatory—and that wasn't enough time to persuade Lagash of the danger. Two centuries might not have been enough. But our records are at the Hideout, and today we photograph the eclipse. The next cycle will *start off* with the truth, and when the *next* eclipse comes, mankind will at last be ready for it. Come to think of it, that's part of your story, too."

A thin wind ruffled the curtains at the window as Theremon opened it and leaned out. It played coldly with his hair as he stared at the crimson sunlight on his hand. Then he turned in sudden rebellion.

"What is there in Darkness to drive *me* mad?"

Sheerin smiled to himself as he spun the empty liquor bottle with abstracted motions of his hand. "Have you ever experienced Darkness, young man?"

The newsman leaned against the wall and considered. "No. Can't say I



have. But I know what it is. Just—uh—” He made vague motions with his fingers, and then brightened. “Just no light. Like in caves.”

“Have you ever been in a cave?”

“In a cave! Of course not.”

“I thought not. I tried last week—just to see—but I got out in a hurry. I went in until the mouth of the cave was just visible as a blur of light, with black everywhere else. I never thought a person my weight could run that fast.”

Theremon’s lip curled. “Well, if it comes to that, I guess I wouldn’t have run, if I had been there.”

The psychologist studied the young man with an annoyed frown.

“My, don’t you talk big! I dare you to draw the curtain.”

Theremon looked his surprise and said, “What for? If we had four or five suns out there we might want to cut the light down a bit, for comfort, but now we haven’t enough light as it is.”

“That’s the point. Just draw the curtain; then come here and sit down.”

“All right.” Theremon reached for the tasseled string and jerked. The red curtain slid across the wide window, the brass rings hissing their way along the crossbar, and a dusk-red shadow clamped down on the room.

Theremon’s footsteps sounded hollowly in the silence as he made his way to the table, and then they stopped half-way. “I can’t see you, sir,” he whispered.

“Feel your way,” ordered Sheerin in a strained voice.

“But I can’t see you, sir.” The newsman was breathing harshly. “I can’t see anything.”

“What did you expect?” came the grim reply. “Come here and sit down!”

The footsteps sounded again, waveringly, approaching slowly. There was the sound of someone fumbling with a chair. Theremon’s voice came thinly, “Here I am. I feel . . . *ulp* . . . all right.”

“You like it, do you?”

“N-no. It’s pretty awful. The walls seem to be—” He paused. “They seem to be closing in on me. I keep wanting to push them away. But I’m not going *mad*! In fact, the feeling isn’t as bad as it was.”

“All right. Draw the curtain back again.”

There were cautious footsteps through the dark, the rustle of Theremon’s body against the curtain as he felt for the tassel, and then the triumphant *roo-osh* of the curtain slithering back. Red light flooded the room, and with a cry of joy Theremon looked up at the sun.

Sheerin wiped the moistness off his forehead with the back of a hand and said shakily, “And that was just a dark room.”

“It can be stood,” said Theremon lightly.

“Yes, a dark room can. But were you at the Jonglor Centennial Exposition two years ago?”

“No, it so happens I never got around to it. Six thousand miles was just a bit too much to travel, even for the exposition.”

“Well, I was there. You remember hearing about the ‘Tunnel of Mystery’ that broke all records in the amusement area—for the first month or so, anyway?”

"Yes. Wasn't there some fuss about it?"

"Very little. It was hushed up. You see, that Tunnel of Mystery was just a mile-long tunnel—with no lights. You got into a little open car and jolted along through Darkness for fifteen minutes. It was very popular—while it lasted."

"Popular?"

"Certainly. There's a fascination in being frightened *when it's part of a game*. A baby is born with three instinctive fears: of loud noises, of falling, and of the absence of light. That's why it's considered so funny to jump at someone and shout 'Boo!' That's why it's such fun to ride a roller coaster. And that's why that Tunnel of Mystery started cleaning up. People came out of that Darkness shaking, breathless, half dead with fear, but they kept on paying to get in."

"Wait a while, I remember now. Some people came out dead, didn't they? There were rumors of that after it shut down."

The psychologist snorted. "Bah! Two or three died. That was nothing! They paid off the families of the dead ones and argued the Jonglor City Council into forgetting it. After all, they said, if people with weak hearts want to go through the tunnel, it was at their own risk—and besides, it wouldn't happen again. So they put a doctor in the front office and had every customer go through a physical examination before getting into the car. That actually *boosted* ticket sales."

"Well, then?"

"But, you see, there was something else. People sometimes came out in perfect order, except that they refused to go into buildings—any buildings; including palaces, mansions, apartment houses, tenements, cottages, huts, shacks, lean-tos, and tents."

Theremon looked shocked. "You mean they refused to come in out of the open. Where'd they sleep?"

"In the open."

"They should have *forced* them inside."

"Oh, they did, they did. Whereupon these people went into violent hysterics and did their best to beat their brains out against the nearest wall. Once you got them inside, you couldn't keep them there without a strait jacket and a shot of morphine."

"They must have been crazy."

"Which is exactly what they were. One person out of every ten who went into that tunnel came out that way. They called in the psychologists, and we did the only thing possible. We closed down the exhibit." He spread his hands.

"What was the matter with those people?" asked Theremon finally.

"Essentially the same thing that was the matter with you when you thought the walls of the room were crushing in on you in the dark. There is a psychological term for mankind's instinctive fear of the absence of light. We call it 'claustrophobia,' because the lack of light is always tied up with enclosed places, so that fear of one is fear of the other. You see?"

"And those people of the tunnel?"

"Those people of the tunnel consisted of those unfortunates whose mentality did not quite possess the resiliency to overcome the claustrophobia

that overtook them in the Darkness. Fifteen minutes without light is a long time; you only had two or three minutes, and I believe you were fairly upset.

"The people of the tunnel had what is called a 'claustrophobic fixation.' Their latent fear of Darkness and enclosed places had crystallized and become active, and, as far as we can tell, permanent. *That's* what fifteen minutes in the dark will do."

There was a long silence, and Theremon's forehead wrinkled slowly into a frown. "I don't believe it's that bad."

"You mean you don't want to believe," snapped Sheerin. "You're afraid to believe. Look out the window!"

Theremon did so, and the psychologist continued without pausing, "Imagine Darkness—everywhere. No light, as far as you can see. The houses, the trees, the fields, the earth, the sky—*black!* And Stars thrown in, for all I know—whatever *they* are. Can you conceive it?"

"Yes, I can," declared Theremon truculently.

And Sheerin slammed his fist down upon the table in sudden passion. "You lie! You can't conceive that. Your brain wasn't built for the conception any more than it was built for the conception of infinity or eternity. You can only talk about it. A fraction of the reality upsets you, and when the real thing comes, your brain is going to be presented with a phenomenon outside its limits of comprehension. You will go mad, completely and permanently! There is no question of it!"

He added sadly, "And another couple of millenniums of painful struggle comes to nothing. Tomorrow there won't be a city standing unharmed in all Lagash."

Theremon recovered part of his mental equilibrium. "That doesn't follow. I still don't see that I can go loony just because there is not a Sun in the sky—but even if I did and everyone else did, how does that harm the cities? Are we going to blow them down?"

But Sheerin was angry, too. "If you were in Darkness what would you want more than anything else; what would it be that every instinct would call for? Light, damn you, *light!*"

"Well?"

"And how would you get light?"

"I don't know," said Theremon flatly.

"What's the *only* way to get light, short of the sun?"

"How should I know?"

They were standing face to face and nose to nose.

Sheerin said, "You burn something, mister. Ever see a forest fire? Ever go camping and cook a stew over a wood fire? Heat isn't the only thing burning wood gives off, you know. It gives off light, and people know that. And when it's dark they want light, and they're going to *get it.*"

"So they burn wood?"

"So they burn whatever they can get. They've got to have light. They've got to burn something, and wood isn't handy—so they'll burn whatever is nearest. They'll have their light—and every center of habitation goes up in flames!"

Eyes held each other as though the whole matter were a personal affair of respective will powers, and then Theremon broke away wordlessly. His breathing was harsh and ragged, and he scarcely noted the sudden hubbub that came from the adjoining room behind the closed door.

Sheerin spoke, and it was with an effort that he made it sound matter-of-fact. "I think I heard Yimot's voice. He and Faro are probably back. Let's go in and see what kept them."

"Might as well!" muttered Theremon. He drew a long breath and seemed to shake himself. The tension was broken.

The room was in an uproar with members of the staff clustering about two young men who were removing outer garments even as they parried the miscellany of questions being thrown at them.

Aton bustled through the crowd and faced the newcomers angrily. "Do you realize that it's less than half an hour before deadline? Where have you two been?"

Faro 24 seated himself and rubbed his hands. His cheeks were red with the outdoor chill. "Yimot and I have just finished carrying through a little crazy experiment of our own. We've been trying to see if we couldn't construct an arrangement by which we could simulate the appearance of Darkness and Stars so as to get an advance notion as to how it looked."

There was a confused murmur from the listeners, and a sudden look of interest entered Aton's eyes. "There wasn't anything said of this before. How did you go about it?"

"Well," said Faro, "the idea came to Yimot and myself long ago, and we've been working on it in our spare time. Yimot knew of a low one-story house down in the city with a domed roof—it had once been used as a museum, I think. Anyway, we bought it—"

"Where did you get the money?" interrupted Aton peremptorily.

"Our bank accounts," grunted Yimot 70. "It cost two thousand credits." Then, defensively, "Well, what of it? Tomorrow, two thousand credits will be two thousand pieces of paper. That's all."

"Sure," agreed Faro. "We bought the place and rigged it up with black velvet from top to bottom so as to get as perfect a Darkness as possible. Then we punched tiny holes in the ceiling and through the roof and covered them with little metal caps, all of which could be shoved aside simultaneously at the close of a switch. At least, we didn't do that part ourselves; we got a carpenter and an electrician and some others—money didn't count. The point was that we could get the light to shine through those holes in the roof, so that we could get a starlike effect."

Not a breath was drawn during the pause that followed. Aton said stiffly:

"You had no right to make a private—"

Faro seemed abashed. "I know, sir—but, frankly, Yimot and I thought that the experiment was a little dangerous. If the effect really worked, we half expected to go mad—from what Sheerin says about all this, we thought that would be rather likely. We wanted to take the risk ourselves. Of course, if we found we could retain sanity, it occurred to us that we might develop immunity to the real thing, and then expose the rest of you to the same thing. But things didn't work out at all—"

"Why, what happened?"

It was Yimot that answered. "We shut ourselves in and allowed our eyes to get accustomed to the dark. It's an extremely creepy feeling because the total Darkness makes you feel as if the walls and ceiling are crushing in on you. But we got over that and pulled the switch. The caps fell away and the roof glittered all over with little dots of light—"

"Well?"

"Well—nothing. That was the whacky part of it. Nothing happened. It was just a roof with holes in it, and that's just what it looked like. We tried it over and over again—that's what kept us so late—but there just isn't any effect at all."

There followed a shocked silence, and all eyes turned to Sheerin, who sat motionless, mouth open.

Theremon was the first to speak. "You know what this does to this whole theory you've built up, Sheerin, don't you?" He was grinning with relief.

But Sheerin raised his hand. "Now wait a while. Just let me think this through." And then he snapped his fingers, and when he lifted his head there was neither surprise nor uncertainty in his eyes. "Of course—"

He never finished. From somewhere up above there sounded a sharp clang and Beenay, starting to his feet, dashed up the stairs with a "What the devil!"

The rest followed after.

Things happened quickly. Once up in the dome, Beenay cast one horrified glance at the shattered photographic plates and at the man bending over them; and then hurled himself fiercely at the intruder, getting a death grip on his throat. There was a wild threshing, and as others of the staff joined in, the stranger was swallowed up and smothered under the weight of half a dozen angry men.

Aton came up last, breathing heavily. "Let him up!"

There was a reluctant unscrambling and the stranger, panting harshly, with his clothes torn and his forehead bruised, was hauled to his feet. He had a short yellow beard curled elaborately in the style affected by the Cultists.

Beenay shifted his hold to a collar grip and shook the man savagely. "All right, rat, what's the idea? These plates—"

"I wasn't after *them*," retorted the Cultist coldly. "That was an accident."

Beenay followed his glowering stare and snarled, "I see. You were after the cameras themselves. The accident with the plates was a stroke of luck for you, then. If you had touched Snapping Bertha or any of the others, you would have died by slow torture. As it is—" He drew his fist back.

Aton grabbed his sleeve. "Stop that! Let him go!"

The young technician wavered, and his arm dropped reluctantly. Aton pushed him aside and confronted the Cultist. "You're Latimer, aren't you?"

The Cultist bowed stiffly and indicated the symbol upon his hip. "I am Latimer 25, adjutant of the third class to his serenity, Sor 5."

"And"—Aton's white eyebrows lifted—"you were with his serenity when he visited me last week, weren't you?"

Latimer bowed a second time.

"Now, then, what do you want?"

"Nothing that you would give me of your own free will."

"Sor 5 sent you, I suppose—or is this your own idea?"

"I won't answer that question."

"Will there be any further visitors?"

"I won't answer that, either."

Aton glanced at his timepiece and scowled. "Now, man, what is it your master wants of me? I have fulfilled my end of the bargain."

Latimer smiled faintly, but said nothing.

"I asked him," continued Aton angrily, "for data only the Cult could supply, and it was given to me. For that, thank you. In return, I promised to prove the essential truth of the creed of the Cult."

"There was no need to prove that," came the proud retort. "It stands proven by the 'Book of Revelations.'"

"For the handful that constitute the Cult, yes. Don't pretend to mistake my meaning. I offered to present scientific backing for your beliefs. And I did!"

The Cultist's eyes narrowed bitterly. "Yes, you did—with a fox's subtlety, for your pretended explanation backed our beliefs, and at the same time removed all necessity for them. You made of the Darkness and of the Stars a natural phenomenon, and removed all its real significance. That was blasphemy."

"If so, the fault isn't mine. The facts exist. What can I do but state them?"

"Your 'facts' are a fraud and a delusion."

Aton stamped angrily. "How do you know?"

And the answer came with the certainty of absolute faith. "I *know*!"

The director purpled and Beenay whispered urgently. Aton waved him silent. "And what does Sor 5 want us to do? He still thinks, I suppose, that in trying to warn the world to take measures against the menace of madness, we are placing innumerable souls in jeopardy. We aren't succeeding, if that means anything to him."

"The attempt itself has done harm enough, and your vicious effort to gain information by means of your devilish instruments must be stopped. We obey the will of the Stars, and I only regret that my clumsiness prevented me from wrecking your infernal devices."

"It wouldn't have done you too much good," returned Aton. "All our data, except for the direct evidence we intend collecting right now, is already safely cached and well beyond possibility of harm." He smiled grimly. "But that does not affect your present status as an attempted burglar and criminal."

He turned to the men behind him. "Someone call the police at Saro City."

There was a cry of distaste from Sheerin. "Damn it, Aton, what's wrong with you? There's no time for that. Here"—he hustled his way forward—"let me handle this."

Aton stared down his nose at the psychologist. "This is not the time for your monkeyshines, Sheerin. Will you please let me handle this my own way? Right now you are a complete outsider here, and don't forget it."

Sheerin's mouth twisted eloquently. "Now why should we go to the impossible trouble of calling the police—with Beta's eclipse a matter of minutes from now—when this young man here is perfectly willing to pledge his word of honor to remain and cause no trouble whatsoever?"

The Cultist answered promptly, "I will do no such thing. You're free to do what you want, but it's only fair to warn you that just as soon as I get my chance I'm going to finish what I came out here to do. If it's my word of honor you're relying on, you'd better call the police."

Sheerin smiled in a friendly fashion. "You're a determined cuss, aren't you? Well, I'll explain something. Do you see that young man at the window? He's a strong, husky fellow, quite handy with his fists, and he's an outsider besides. Once the eclipse starts there will be nothing for him to do except keep an eye on you. Besides him, there will be myself—a little too stout for active fisticuffs, but still able to help."

"Well, what of it?" demanded Latimer frozenly.

"Listen, and I'll tell you," was the reply. "Just as soon as the eclipse starts, we're going to take you, Theremon and I, and deposit you in a little closet with one door, to which is attached one giant lock and no windows. You will remain there for the duration."

"And afterward," breathed Latimer fiercely, "there'll be no one to let me out. I know as well as you do what the coming of the Stars means—I know it far better than you. With all your minds gone, you are not likely to free me. Suffocation or slow starvation, is it? About what I might have expected from a group of scientists. But I don't give my word. It's a matter of principle, and I won't discuss it further."

Aton seemed perturbed. His faded eyes were troubled. "Really, Sheerin, locking him—"

"Please!" Sheerin motioned him impatiently to silence. "I don't think for a moment things will go that far. Latimer has just tried a clever little bluff, but I'm not a psychologist just because I like the sound of the word." He grinned at the Cultist. "Come now, you don't really think I'm trying anything as crude as slow starvation. My dear Latimer, if I lock you in the closet, you are not going to see the Darkness, and you are not going to see the Stars. It does not take much of a knowledge of the fundamental creed of the Cult to realize that for you to be hidden from the Stars when they appear means the loss of your immortal soul. Now, I believe you to be an honorable man. I'll accept your word of honor to make no further effort to disrupt proceedings if you'll offer it."

A vein throbbed in Latimer's temple, and he seemed to shrink within himself as he said thickly, "You have it!" And then he added with swift fury, "But it is my consolation that you will all be damned for your deeds of today." He turned on his heel and stalked to the high three-legged stool by the door.

Sheerin nodded to the columnist. "Take a seat next to him, Theremon—just as a formality. Hey, Theremon!"

But the newspaperman didn't move. He had gone pale to the lips. "Look at that!" The finger he pointed toward the sky shook, and his voice was dry and cracked.

\* \* \*



There was one simultaneous gasp as every eye followed the pointing finger and, for one breathless moment, stared frozenly.

*Beta was chipped on one side!*

The tiny bit of encroaching blackness was perhaps the width of a fingernail, but to the staring watchers it magnified itself into the crack of doom.

Only for a moment they watched, and after that there was a shrieking confusion that was even shorter of duration and which gave way to an orderly scurry of activity—each man at his prescribed job. At the crucial moment there was no time for emotion. The men were merely scientists with work to do. Even Aton had melted away.

Sheerin said prosaically, "First contact must have been made fifteen minutes ago. A little early, but pretty good considering the uncertainties involved in the calculation." He looked about him and tiptoed to Theremon, who still remained staring out the window, and dragged him away gently.

"Aton is furious," he whispered, "so stay away. He missed first contact on account of this fuss with Latimer, and if you get in his way he'll have you thrown out the window."

Theremon nodded shortly and sat down. Sheerin stared in surprise at him.

"The devil, man," he exclaimed, "you're shaking."

"Eh?" Theremon licked dry lips and then tried to smile. "I don't feel very well, and that's a fact."

The psychologist's eyes hardened. "You're not losing your nerve?"

"No!" cried Theremon in a flash of indignation. "Give me a chance, will you? I haven't really believed this rigmarole—not way down beneath, anyway—till just this minute. Give me a chance to get used to the idea. *You've* been preparing yourself for two months or more."

"You're right at that," replied Sheerin thoughtfully. "Listen! Have you got a family—parents, wife, children?"

Theremon shook his head. "You mean the Hideout, I suppose. No, you don't have to worry about that. I have a sister, but she's two thousand miles away. I don't even know her exact address."

"Well, then, what about yourself? You've got time to get there, and they're one short anyway, since I left. After all, you're not needed here, and you'd make a darned fine addition—"

Theremon looked at the other wearily. "You think I'm scared stiff, don't you? Well, get this, mister, I'm a newspaperman and I've been assigned to cover a story. I intend covering it."

There was a faint smile on the psychologist's face. "I see. Professional honor, is that it?"

"You might call it that. But, man, I'd give my right arm for another bottle of that sockeroo juice even half the size of the one *you* hogged. If ever a fellow needed a drink, I do."

He broke off. Sheerin was nudging him violently. "Do you hear that? Listen!"

Theremon followed the motion of the other's chin and stared at the Cultist, who, oblivious to all about him, faced the window, a look of wild elation on his face, droning to himself the while in singsong fashion.

"What's he saying?" whispered the columnist.

"He's quoting 'Book of Revelations,' fifth chapter," replied Sheerin. Then, urgently, "Keep quiet and listen, I tell you."

The Cultist's voice had risen in a sudden increase of fervor:

"And it came to pass that in those days the Sun, Beta, held lone vigil in the sky for ever longer periods as the revolutions passed; until such time as for full half a revolution, it alone, shrunken and cold, shone down upon Lagash.

"And men did assemble in the public squares and in the highways, there to debate and to marvel at the sight, for a strange depression had seized them. Their minds were troubled and their speech confused, for the souls of men awaited the coming of the Stars.

"And in the city of Trigon, at high noon, Vendret 2 came forth and said unto the men of Trigon, 'Lo ye sinners! Though ye scorn the ways of righteousness, yet will the time of reckoning come. Even now the Cave approaches to swallow Lagash; yea, and all it contains.'

"And even as he spoke the lip of the Cave of Darkness passed the edge of Beta so that to all Lagash it was hidden from sight. Loud were the cries of men as it vanished, and great was the fear of soul that fell upon them.

"It came to pass that the Darkness of the Cave fell upon Lagash, and there was no light on all the surface of Lagash. Men were even as blinded, nor could one man see his neighbor, though he felt his breath upon his face.

"And in this blackness there appeared the Stars, in countless numbers, and to the strains of ineffable music of a beauty so wondrous that the very leaves of the trees turned to tongues that cried out in wonder.

"And in that moment the souls of men departed from them, and their abandoned bodies became even as beasts; yea, even as brutes of the wild; so that through the blackened streets of the cities of Lagash they prowled with wild cries.

"From the Stars there then reached down the Heavenly Flame, and where it touched, the cities of Lagash flamed to utter destruction, so that of man and of the works of man nought remained.

"Even then—"

There was a subtle change in Latimer's tone. His eyes had not shifted, but somehow he had become aware of the absorbed attention of the other two. Easily, without pausing for breath, the timbre of his voice shifted and the syllables became more liquid.

Theremon, caught by surprise, stared. The words seemed on the border of familiarity. There was an elusive shift in the accent, a tiny change in the vowel stress; nothing more—yet Latimer had become thoroughly unintelligible.

Sheerin smiled slyly. "He shifted to some old-cycle tongue, probably their traditional second cycle. That was the language in which the original 'Book of Revelations' had originally been written, you know."

"It doesn't matter; I've heard enough." Theremon shoved his chair back and brushed his hair back with hands that no longer shook. "I feel much better now."

"You do?" Sheerin seemed mildly surprised.

"I'll say I do. I had a bad case of jitters just a while back. Listening to you and your gravitation and seeing that eclipse start almost finished me. But this"—he jerked a contemptuous thumb at the yellow-bearded Cultist—"this is the sort of thing my nurse used to tell me. I've been laughing at that sort of thing all my life. I'm not going to let it scare me now."

He drew a deep breath and said with a hectic gaiety, "But if I expect to keep on the good side of myself, I'm going to turn my chair away from the window."

Sheerin said, "Yes, but you'd better talk lower. Aton just lifted his head out of that box he's got it stuck into and gave you a look that should have killed you."

Theremon made a mouth. "I forgot about the old fellow." With elaborate care he turned the chair from the window, cast one distasteful look over his shoulder and said, "It has occurred to me that there must be considerable immunity against this Star madness."

The psychologist did not answer immediately. Beta was past its zenith now, and the square of bloody sunlight that outlined the window upon the floor had lifted into Sheerin's lap. He stared at its dusky color thoughtfully and then bent and squinted into the sun itself.

The chip in its side had grown to a black encroachment that covered a third of Beta. He shuddered, and when he straightened once more his florid cheeks did not contain quite as much color as they had previously.

With a smile that was almost apologetic, he reversed his chair also. "There are probably two million people in Saro City that are all trying to join the Cult at once in one gigantic revival." Then, ironically, "The Cult is in for an hour of unexampled prosperity. I trust they'll make the most of it. Now, what was it you said?"

"Just this. How do the Cultists manage to keep the 'Book of Revelations' going from cycle to cycle, and how on Lagash did it get written in the first place? There must have been some sort of immunity, for if everyone had gone mad, who would be left to write the book?"

Sheerin stared at his questioner ruefully. "Well, now, young man, there isn't any eyewitness answer to that, but we've got a few damned good notions as to what happened. You see, there are three kinds of people who might remain relatively unaffected. First, the very few who don't see the Stars at all; the blind, those who drink themselves into a stupor at the beginning of the eclipse and remain so to the end. We leave them out—because they aren't really witnesses.

"Then there are children below six, to whom the world as a whole is too new and strange for them to be too frightened at Stars and Darkness. They would just be another item in an already surprising world. You see that, don't you?"

The other nodded doubtfully. "I suppose so."

"Lastly, there are those whose minds are too coarsely grained to be entirely toppled. The very insensitive would be scarcely affected—oh, such people as some of our older, work-broken peasants. Well, the children would have fugitive memories, and that, combined with the confused, in-

coherent babblings of the half-mad morons, formed the basis for the 'Book of Revelations.'

"Naturally, the book was based, in the first place, on the testimony of those least qualified to serve as historians; that is, children and morons; and was probably extensively edited and re-edited throughout the cycles."

"Do you suppose," broke in Theremon, "that they carried the book through the cycles the way we're planning on handing on the secret of gravitation?"

Sheerin shrugged. "Perhaps, but their exact method is unimportant. They do it, somehow. The point I was getting at was that the book can't help but be a mass of distortion, even if it is based on fact. For instance, do you remember the experiment with the holes in the roof that Faro and Yimot tried—the one that didn't work?"

"Yes."

"You know why it didn't w—" He stopped and rose in alarm, for Aton was approaching, his face a twisted mask of consternation. "*What's happened?*"

Aton drew him aside and Sheerin could feel the fingers on his elbow twitching.

"Not so loud!" Aton's voice was low and tortured. "I've just gotten word from the Hideout on the private line."

Sheerin broke in anxiously. "They are in trouble?"

"Not *they*," Aton stressed the pronoun significantly. "They sealed themselves off just a while ago, and they're going to stay buried till day after tomorrow. They're safe. But the city, Sheerin—it's a shambles. You have no idea—" He was having difficulty in speaking.

"Well?" snapped Sheerin impatiently. "What of it? It will get worse. What are you shaking about?" Then, suspiciously, "How do you feel?"

Aton's eyes sparked angrily at the insinuation, and then faded to anxiety once more. "You don't understand. The Cultists are active. They're rousing the people to storm the Observatory—promising them immediate entrance into grace, promising them salvation, promising them anything. What are we to do, Sheerin?"

Sheerin's head bent, and he stared in long abstraction at his toes. He tapped his chin with one knuckle, then looked up and said crisply, "Do? What is there to do? Nothing at all! Do the men know of this?"

"No, of course not!"

"Good! Keep it that way. How long till totality?"

"Not quite an hour."

"There's nothing to do but gamble. It will take time to organize any really formidable mob, and it will take more time to get them out here. We're a good five miles from the city—"

He glared out the window, down the slopes to where the farmed patches gave way to clumps of white houses in the suburbs; down to where the metropolis itself was a blur on the horizon—a mist in the waning blaze of Beta.

He repeated without turning, "It will take time. Keep on working and pray that totality comes first."

Beta was cut in half, the line of division pushing a slight concavity into

the still-bright portion of the Sun. It was like a gigantic eyelid shutting slantwise over the light of a world.

The faint clatter of the room in which he stood faded into oblivion, and he sensed only the thick silence of the fields outside. The very insects seemed frightened mute. And things were dim.

He jumped at the voice in his ear. Theremon said, "Is something wrong?"

"Eh? Er—no. Get back to the chair. We're in the way." They slipped back to their corner, but the psychologist did not speak for a time. He lifted a finger and loosened his collar. He twisted his neck back and forth but found no relief. He looked up suddenly.

"Are you having any difficulty in breathing?"

The newspaperman opened his eyes wide and drew two or three long breaths. "No. Why?"

"I looked out the window too long, I suppose. The dimness got me. Difficulty in breathing is one of the first symptoms of a claustrophobic attack."

Theremon drew another long breath. "Well, it hasn't got me yet. Say, here's another of the fellows."

Beenay had interposed his bulk between the light and the pair in the corner, and Sheerin squinted up at him anxiously. "Hello, Beenay."

The astronomer shifted his weight to the other foot and smiled feebly. "You won't mind if I sit down awhile and join in on the talk? My cameras are set, and there's nothing to do till totality." He paused and eyed the Cultist, who fifteen minutes earlier had drawn a small, skin-bound book from his sleeve and had been poring intently over it every since. "That rat hasn't been making trouble, has he?"

Sheerin shook his head. His shoulders were thrown back and he frowned his concentration as he forced himself to breathe regularly. He said, "Have you had any trouble breathing, Beenay?"

Beenay sniffed the air in his turn. "It doesn't seem stuffy to me."

"A touch of claustrophobia," explained Sheerin apologetically.

"Oh-h-h! It worked itself differently with me. I get the impression that my eyes are going back on me. Things seem to blur and—well, nothing is clear. And it's cold, too."

"Oh, it's cold, all right. That's no illusion." Theremon grimaced. "My toes feel as if I've been shipping them cross country in a refrigerating car."

"What we need," put in Sheerin, "is to keep our minds busy with extraneous affairs. I was telling you a while ago, Theremon, why Faro's experiment with the holes in the roof came to nothing."

"You were just beginning," replied Theremon. He encircled a knee with both arms and nuzzled his chin against it.

"Well, as I started to say, they were misled by taking the 'Book of Revelations' literally. There probably wasn't any sense in attaching any physical significance to the Stars. It might be, you know, that in the presence of total Darkness, the mind finds it absolutely necessary to create light. This illusion of light might be all the Stars there really are."

"In other words," interposed Theremon, "you mean the Stars are the results of the madness and not one of the causes. Then, what good will Beenay's photographs be?"

"To prove that it is an illusion, maybe; or to prove the opposite, for all I know. Then again—"

But Beenay had drawn his chair closer, and there was an expression of sudden enthusiasm on his face. "Say, I'm glad you two got on to this subject." His eyes narrowed and he lifted one finger. "I've been thinking about these Stars and I've got a really cute notion. Of course, it's strictly ocean foam, and I'm not trying to advance it seriously, but I think it's interesting. Do you want to hear it?"

He seemed half reluctant, but Sheerin leaned back and said, "Go ahead! I'm listening."

"Well, then, supposing there were other suns in the universe." He broke off a little bashfully. "I mean suns that are so far away that they're too dim to see. It sounds as if I've been reading some of that fantastic fiction, I suppose."

"Not necessarily. Still, isn't that possibility eliminated by the fact that, according to the Law of Gravitation, they would make themselves evident by their attractive forces?"

"Not if they were far enough off," rejoined Beenay, "really far off—maybe as much as four light years, or even more. We'd never be able to detect perturbations then, because they'd be too small. Say that there were a lot of suns that far off; a dozen or two, maybe."

Theremon whistled melodiously. "What an idea for a good Sunday supplement article. Two dozen suns in a universe eight light years across. Wow! That would shrink *our* universe into insignificance. The readers would eat it up."

"Only an idea," said Beenay with a grin, "but you see the point. During eclipse, these dozen suns would become visible, because there'd be no *real* sunlight to drown them out. Since they're so far off, they'd appear small, like so many little marbles. Of course, the Cultists talk of millions of Stars, but that's probably exaggeration. There just isn't any place in the universe you could put a million suns unless they touch one another."

Sheerin had listened with gradually increasing interest. "You've hit something there, Beenay. And exaggeration is just exactly what would happen. Our minds, as you probably know, can't grasp directly any number higher than five; above that there is only the concept of 'many.' A dozen would become a million just like that. A damn good idea!"

"And I've got another cute little notion," Beenay said. "Have you ever thought what a simple problem gravitation would be if only you had a sufficiently simple system? Supposing you had a universe in which there was a planet with only one sun. The planet would travel in a perfect ellipse and the exact nature of the gravitational force would be so evident it could be accepted as an axiom. Astronomers on such a world would start off with gravity probably before they even invented the telescope. Naked-eye observation would be enough."

"But would such a system be dynamically stable?" questioned Sheerin doubtfully.

"Sure! They call it the 'one-and-one' case. It's been worked out mathematically, but it's the philosophical implications that interest me."



"It's nice to think about," admitted Sheerin, "as a pretty abstraction—like a perfect gas or absolute zero."

"Of course," continued Beenay, "there's the catch that life would be impossible on such a planet. It wouldn't get enough heat and light, and if it rotated there would be total Darkness half of each day. You couldn't expect life—which is totally dependent upon light—to develop under these conditions. Besides—"

Sheerin's chair went over backward as he sprang to his feet in a rude interruption. "Aton's brought out the lights."

Beenay said, "Huh," turned to stare, and then grinned halfway around his head in open relief.

There were half a dozen foot-long, inch-thick rods cradled in Aton's arms. He glared over them at the assembled staff members.

"Get back to work, all of you. Sheerin, come here and help me!"

Sheerin trotted to the older man's side and, one by one, in utter silence, the two adjusted the rods in makeshift metal holders suspended from the walls.

With the air of one carrying through the most sacred item of a religious ritual, Sheerin scraped a large, clumsy match into sputtering life and passed it to Aton, who carried the flame to the upper end of one of the rods.

It hesitated there a while playing futilely about the tip, until a sudden, crackling flare cast Aton's lined face into yellow highlights. He withdrew the match and a spontaneous cheer rattled the window.

The rod was topped by six inches of wavering flame! Methodically, the other rods were lighted, until six independent fires turned the rear of the room yellow.

The light was dim, dimmer even than the tenuous sunlight. The flames reeled crazily, giving birth to drunken, swaying shadows. The torches smoked devilishly and smelled like a bad day in the kitchen. But they emitted yellow light.

There is something to yellow light—after four hours of somber, dimming Beta. Even Latimer had lifted his eyes from his book and stared in wonder.

Sheerin warmed his hands at the nearest, regardless of the soot that gathered upon them in a fine, gray powder, and muttered ecstatically to himself. "Beautiful! Beautiful! I never realized before what a wonderful color yellow is."

But Theremon regarded the torches suspiciously. He wrinkled his nose at the rancid odor, and said, "What are those things?"

"Wood," said Sheerin shortly.

"Oh, no, they're not. They aren't burning. The top inch is charred and the flames just keep shooting up out of nothing."

"That's the beauty of it. This is a really efficient artificial-light mechanism. We made a few hundred of them, but most went to the Hideout, of course. You see"—he turned and wiped his blackened hands upon his handkerchief—"you take the pithy core of coarse water reeds, dry them thoroughly and soak them in animal grease. Then you set fire to it and the grease burns, little by little. These torches will burn for almost half an hour without stopping. Ingenious, isn't it? It was developed by one of our own young men at Saro University."



After the momentary sensation, the dome had quieted. Latimer had carried his chair directly beneath a torch and continued reading, lips moving in the monotonous recital of invocations to the Stars. Beenay had drifted away to his cameras once more, and Theremon seized the opportunity to add to his notes on the article he was going to write for the *Saro City Chronicle* the next day—a procedure he had been following for the last two hours in a perfectly methodical, perfectly conscientious and, as he was well aware, perfectly meaningless fashion.

But, as the gleam of amusement in Sheerin's eyes indicated, careful note taking occupied his mind with something other than the fact that the sky was gradually turning a horrible deep purple-red, as if it were one gigantic, freshly peeled beet; and so it fulfilled its purpose.

The air grew, somehow, denser. Dusk, like a palpable entity, entered the room, and the dancing circle of yellow light about the torches etched itself into ever-sharper distinction against the gathering grayness beyond. There was the odor of smoke and the presence of little chuckling sounds that the torches made as they burned; the soft pad of one of the men circling the table at which he worked, on hesitant tiptoes; the occasional in-drawn breath of someone trying to retain composure in a world that was retreating into the shadow.

It was Theremon who first heard the extraneous noise. It was a vague, unorganized, *impression* of sound that would have gone unnoticed but for the dead silence that prevailed within the dome.

The newsman sat upright and replaced his notebook. He held his breath and listened; then, with considerable reluctance, threaded his way between the solarscope and one of Beenay's cameras and stood before the window.

The silence ripped to fragments at his startled shout:

"*Sheerin!*"

Work stopped! The psychologist was at his side in a moment. Aton joined him. Even Yimot 70, high in his little lean-back seat at the eyepiece of the giant solarscope, paused and looked downward.

Outside, Beta was a mere smouldering splinter, taking one last desperate look at Lagash. The eastern horizon, in the direction of the city, was lost in Darkness, and the road from Saro to the Observatory was a dull-red line bordered on both sides by wooden tracts, the trees of which had somehow lost individuality and merged into a continuous shadowy mass.

But it was the highway itself that held attention, for along it there surged another, and infinitely menacing, shadowy mass.

Aton cried in a cracked voice, "The madmen from the city! They've come!"

"How long to totality?" demanded Sheerin.

"Fifteen minutes, but . . . but they'll be here in five."

"Never mind, keep the men working. We'll hold them off. This place is built like a fortress. Aton, keep an eye on our young Cultist just for luck. Theremon, come with me."

Sheerin was out the door, and Theremon was at his heels. The stairs stretched below them in tight, circular sweeps about the central shaft, fading into a dank and dreary grayness.

The first momentum of their rush had carried them fifty feet down, so that the dim, flickering yellow from the open door of the dome had disappeared and both up above and down below the same dusky shadow crushed in upon them.

Sheerin paused, and his pudgy hand clutched at his chest. His eyes bulged and his voice was a dry cough. "I can't . . . breathe . . . go down . . . yourself. Close all doors—"

Theremon took a few downward steps, then turned. "Wait! Can you hold out a minute?" He was panting himself. The air passed in and out his lungs like so much molasses, and there was a little germ of screeching panic in his mind at the thought of making his way into the mysterious Darkness below by himself.

Theremon, after all, was afraid of the dark!

"Stay here," he said. "I'll be back in a second." He dashed upward two steps at a time, heart pounding—not altogether from the exertion—tumbled into the dome and snatched a torch from its holder. It was foul smelling, and the smoke smarted his eyes almost blind, but he clutched that torch as if he wanted to kiss it for joy, and its flame streamed backward as he hurtled down the stairs again.

Sheerin opened his eyes and moaned as Theremon bent over him. Theremon shook him roughly. "All right, get a hold on yourself. We've got light."

He held the torch at tiptoe height and, propping the tottering psychologist by an elbow, made his way downward in the middle of the protecting circle of illumination.

The offices on the ground floor still possessed what light there was, and Theremon felt the horror about him relax.

"Here," he said brusquely, and passed the torch to Sheerin. "You can hear *them* outside."

And they could. Little scraps of hoarse, wordless shouts.

But Sheerin was right; the Observatory was built like a fortress. Erected in the last century, when the neo-Gavottian style of architecture was at its ugly height, it had been designed for stability and durability, rather than for beauty.

The windows were protected by the grillework of inch-thick iron bars sunk deep into the concrete sills. The walls were solid masonry that an earthquake couldn't have touched, and the main door was a huge oaken slab reinforced with iron at strategic points. Theremon shot the bolts and they slid shut with a dull clang.

At the other end of the corridor, Sheerin cursed weakly. He pointed to the lock of the back door which had been nearly jimmied into uselessness.

"That must be how Latimer got in," he said.

"Well, don't stand there," cried Theremon impatiently. "Help drag up the furniture—and keep that torch out of my eyes. The smoke's killing me."

He slammed the heavy table up against the door as he spoke, and in two minutes had built a barricade which made up for what it lacked in beauty and symmetry by the sheer inertia of its massiveness.

Somewhere, dimly, far off, they could hear the battering of naked fists upon the door; and the screams and yells from outside had a sort of half reality.

That mob had set off from Saro City with only two things in mind: the attainment of Cultist salvation by the destruction of the Observatory, and a maddening fear that all but paralyzed them. There was no time to think of ground cars, or of weapons, or of leadership, or even of organization. They made for the Observatory on foot and assaulted it with bare hands.

And now that they were there, the last flash of Beta, the last ruby red drop of flame, flickered feebly over a humanity that had left only stark, universal fear!

Theremon groaned, "Let's get back to the dome!"

In the dome, only Yimot, at the solarscope, had kept his place. The rest were clustered about the cameras, and Beenay was giving his instructions in a hoarse, strained voice.

"Get it straight, all of you. I'm snapping Beta just before totality and changing the plate. That will leave one of you to each camera. You all know about . . . about times of exposure—"

There was a breathless murmur of agreement.

Beenay passed a hand over his eyes. "Are the torches still burning? Never mind, I see them!" He was leaning hard against the back of a chair. "Now remember, don't . . . don't try to look for good shots. Don't waste time trying to get t-two stars at a time in the scope field. One is enough. And . . . and if you feel yourself going, *get away from the camera.*"

At the door, Sheerin whispered to Theremon, "Take me to Aton. I don't see him."

The newsman did not answer immediately. The vague form of the astronomers wavered and blurred, and the torches overhead had become only vague splotches.

"It's dark," he whimpered.

Sheerin held out his hand. "Aton." He stumbled forward. "Aton!"

Theremon stepped after and seized his arm. "Wait, I'll take you." Somehow he made his way across the room. He closed his eyes against the Darkness and his mind against the chaos within it.

No one heard them or paid attention to them. Sheerin stumbled against the wall. "Aton!"

The psychologist felt shaking hands touching him, then withdrawing, and a voice muttering, "Is that you, Sheerin?"

"Aton!" He strove to breathe normally. "Don't worry about the mob. The place will hold them off."

Latimer, the Cultist, rose to his feet, and his face twisted in desperation. His word was pledged, and to break it would mean placing his soul in mortal peril. Yet that word had been forced from him and had not been given freely. The Stars would come soon; he could not stand by and allow— And yet his word was pledged.

Beenay's face was dimly flushed as it looked upward at Beta's last ray, and Latimer, seeing him bend over his camera, made his decision. His nails cut the flesh of his palms as he tensed himself.

He staggered crazily as he started his rush. There was nothing before him but shadows; the very floor beneath his feet lacked substance. And

then someone was upon him and he went down with clutching fingers at his throat.

He doubled his knee and drove it hard into his assailant. "Let me up or I'll kill you."

Theremon cried out sharply and muttered through a blinding haze of pain, "You double-crossing rat!"

The newsman seemed conscious of everything at once. He heard Beenay croak, "I've got it. At your cameras, men!" and then there was the strange awareness that the last thread of sunlight had thinned out and snapped.

Simultaneously he heard one last choking gasp from Beenay, and a queer little cry from Sheerin, a hysterical giggle that cut off in a rasp—and a sudden silence, a strange, deadly silence from outside.

And Latimer had gone limp in his loosening grasp. Theremon peered into the Cultist's eyes and saw the blankness of them, staring upward, mirroring the feeble yellow of the torches. He saw the bubble of froth upon Latimer's lips and heard the low animal whimper in Latimer's throat.

With the slow fascination of fear, he lifted himself on one arm and turned his eyes toward the blood-curdling blackness of the window.

Through it shone the Stars!

Not Earth's feeble thirty-six hundred Stars visible to the eye—Lagash was in the center of a giant cluster. Thirty thousand mighty suns shone down in a soul-searing splendor that was more frighteningly cold in its awful indifference than the bitter wind that shivered across the cold, horribly bleak world.

Theremon staggered to his feet, his throat constricting him to breathlessness, all the muscles of his body writhing in a tensely of terror and sheer fear beyond bearing. He was going mad, and knew it, and somewhere deep inside a bit of sanity was screaming, struggling to fight off the hopeless flood of black terror. It was very horrible to go mad and know that you were going mad—to know that in a little minute you would be here physically and yet all the real essence would be dead and drowned in the black madness. For this was the Dark—the Dark and the Cold and the Doom. The bright walls of the universe were shattered and their awful black fragments were falling down to crush and squeeze and obliterate him.

He jostled someone crawling on hands and knees, but stumbled somehow over him. Hands groping at his tortured throat, he limped toward the flame of the torches that filled all his mad vision.

"Light!" he screamed.

Aton, somewhere, was crying, whimpering horribly like a terribly frightened child. "Stars—all the Stars—we didn't know at all. We didn't know anything. We thought six stars is a universe is something the Stars didn't notice is Darkness forever and ever and ever and the walls are breaking in and we didn't know we couldn't know and anything—"

Someone clawed at the torch, and it fell and snuffed out. In the instant, the awful splendor of the indifferent Stars leaped nearer to them.

On the horizon outside the window, in the direction of Saro City, a crimson glow began growing, strengthening in brightness, that was not the glow of a sun.

The long night had come again. ○

# LEONID SKIES

Carl Frederick

As a boy, Carl Frederick's favorite time was winter where, in the early darkness, the stars came out before his mandatory bedtime. In other seasons, he spent many hours in his local planetarium where he'd achieved something of the status of a mascot. His early addiction to the night sky likely led to his becoming a theoretical physicist. Carl regards his second story for *Asimov's* as an homage to the awe of the night and to the firmament-obsession of his younger self.

Rising huge from the coastal island, the dome looked like a bug's reticulated eye. Mark Frey gazed through the windshield at the far-off structure, the seven-foot perimeter wall supporting a transparent hemispherical dome some quarter of a mile in diameter. At this distance away, five or six miles with water intervening, Mark more recalled to mind than actually saw the dome's thin spiderweb of support beams cradling countless squares of Hyperglass. The material, which could be electrically commanded from transparent to opaque, had been developed for domes on the Moon.

His hands involuntarily tightened their grip on the steering wheel. Domes on the Moon. Wouldn't happen, at least not in his lifetime. He'd spent the last eight months of that lifetime on the Moon doing surveys. And then the government had yanked the funding.

Through the rear view mirror, he saw his son studying the brochure, and, next to him, his son's best friend Adrian gazing out the window. Suddenly, Adrian turned and caught his eye.

"Do you think, Mr. Frey," said the boy, "that the weather will be clear for the meteor shower?"

"Shower?" said Mark, "It'll be a *storm* if the predictions are anywhere near accurate. And yes. I did have to use some influence to have the weather changed. The camp people didn't know about the Leonids."

"Really?"

"Really." Mark chuckled. "Are you looking forward to it?"

"Oh, yes, sir."

Mark regarded Adrian in the mirror—obliquely, trying not to clue Adrian in that he was being observed. The boy, English and super polite, seemed as if he'd just popped out of a Dickens novel. He seemed natural,

an in that he was being observed. The boy, English and super polite, seemed as if he'd just popped out of a Dickens novel. He seemed natural, self-assured and, well, perfect—the idealization of a ten-year-old. Mark gave the bare hint of a shake of his head. *Then again, all parents seem to think their children's friends are more together than their own offspring.* He switched his gaze to his son. "Kev, are you looking forward to it, too?"

"Yeah. Sure," said Kevin, not looking up from the brochure.

Mark let out a mental sigh. Before he'd gone to the Moon, Kevin had been as spontaneous and enthusiastic as Adrian, but now . . . but now, he couldn't even get the kid to make eye contact.

His wife had thought a father-and-son camping trip might be a way of re-bonding. She said it in a matter of fact way, as if bonding were something trivial, something that could be accomplished with Superglue. *Eight months lost and wasted on moon base—the abandoned gateway to space.*

Yes, he'd been away, but not out of contact. They'd talked daily—Earth daily, that is. But with the three-second delay, the time it took radio waves to travel from the Earth to the Moon and back, those talks soon became expressions of the trivial—greeting cards rather than human interaction.

Watching Kevin through the small window, Mark felt disconnected still from his son. There still seemed to be a time-delay barrier between them. Maybe his wife was right; maybe it was a question of re-bonding.

It was painful watching his son's flat expression; he transferred his gaze to the boy's brochure.

"Campground-X" it proclaimed in big letters. "X for Xtreme fun!"

Mark was aware of his mouth forming a tight-lipped smile—covering a scowl. *X for Xtreme fun.* He didn't know about that, but he did understand the subtext. X, meaning "NO": No mosquitoes, no West Nile virus, no harmful solar UV, no riffraff—an absolutely safe, family camping experience.

As he drove, Mark noticed something by its absence: the sign for his favorite campground was gone. *West Nile did that, no doubt.* Even though there were just a few hundred cases of the virus per year, fear of it had virtually wiped out conventional camping. *West Nile, bird flu, Brazilian Puffweed, the ozone hole, the unpredictable weather caused by global warming—so now we have domed campgrounds, guaranteed mosquito free.*

"Wouldn't you guys rather camp out under the real sky?" Mark looked into the rearview window. "Wouldn't it be more fun taking our chances—not knowing the weather months in advance?"

"I think the dome's great," said Kevin. "And it's a planetarium. If the outside is cloudy, we'll still see the meteor shower."

"Only a simulation," said Mark.

"Yeah. And better probably. Real special effects."

"The weather report says the sky—the real sky—will be clear overnight," said Mark, more harshly than he'd intended.

"Anyway," said Adrian, "if we camped outside, we'd probably freeze to death."

Mark smiled. The boy was right. It was mid-November. With the freaky



weather of the last few years, even though the days were as warm as summer, the nights felt like the High Arctic.

As the dome loomed ever larger—the island on which it stood was less than a half mile from the mainland—even Mark became taken by its grandeur. And he'd read the brochure. He knew of the advanced white-laser planetarium projector, the lake for swimming stocked with token fish, the forested nature walk. The campground was really a huge greenhouse. He heard the kids in the back also discussing the place: the Saturday-night movies and laser light shows, the cutting edge video games in the activity center, the rabbits.

"No flashlights with more than two cells are allowed," said Kevin, browsing the brochure, "and anyone caught shining a laser pointer at the dome will be kicked out." He flipped to the next page and pointed to a picture. "Did you know that they have winter camping in August?"

"So we can freeze to death *indoors*," said Adrian, looking down at the picture. He transferred his gaze from the brochure to the real thing. "Wow, it's big. Gee, look at all that glass. It looks weird with the sun shining through from the other side."

Mark smiled, but sadly. Adrian sounded the way Kevin used to: happy, enthusiastic.

"How do they keep the bird poop off?" said Kevin.

"It's made of Hyperglass," said Mark. "And there's a high-voltage ionizing cleaning system—laser triggered. And see those towers—bird flyover repellers. And inside, there's surface lamellar airflow to minimize the need for cleaning." Mentally, he slapped himself. He was beginning to sound like the gung-ho engineer he'd been before the Moon colony project had been canceled.

"Kevin told me you designed it, Mr. Frey," said Adrian.

"A small part of it." Mark gazed longingly at the structure. "You know, Adrian, these domes were designed for colonies on the Moon."

"But there aren't any colonies on the Moon," said Adrian. "Are there, sir?"

Mark understood that Adrian's question was for politeness' sake. "No, there aren't." He forced a laugh. "But for the Moon design, we didn't have to worry about bird poop."

Mark found an open spot in the dockside parking lot. The lot was linear—two rows of parking spaces with a roadway between them. People and X-porters plied the roadway. The X-porters—golf carts painted to look like animals—served to take campers' gear onto the ferry and then to their camping areas in the dome. There were three areas: bobcat, wolf, and bear.

Bordering the parking lot on either side stood two rows of bug zappers on poles, built to look like ceremonial torches in some jungle adventure movie.

Getting out of the car, Mark found the temperature pleasantly cool with a hint of a chill in the occasional breeze—a fair bit colder than it had been in the city. Perhaps taking only summer-weight clothing had not been all that great an idea. But then again, they'd be camping under the



dome. He still had trouble accepting the notion.

They each took a small day-pack from the car trunk and then walked toward the ferryboat. The packs contained little else besides a change of clothing, swimming trunks, a flashlight, and, in the boys' packs, video game units. Like most campers these days, they'd rent their gear at the campground.

Mark, wide-angle image stabilized binoculars hung around his neck, cast a quick glance to the sky—beautifully clear—and imagined the meteor storm to come. He hoped the display might trigger the family lust for astronomy in his son. And he had the outside hope that it just might trigger Kevin's sense of adventure. *Right now, it seems as if he just wants to grow up enough to be able to hang out at the mall.*

Since the entrance to Campground-X faced the ocean, not the mainland, the ferryboat had to sail halfway around the island. Although the great domed campground took up most of the land, a grassy knoll jutted out from the entrance. Onto this island peninsula the ferryboat docked.

Following the three X-porters, Mark and the boys walked toward the dome. At the entrance, after they passed through the bug blowers, Mark paused in front of the camp office, inhaling deeply, taking in the smell of the woods—the tree-scented output of the forced air circulator. Then he sent the boys off to browse in the camp store while he went in to pay the site fee.

He walked to a counter behind which sat a woman in a leaf-green blouse and wood-brown shorts. A plastic nametag over her blouse pocket indicated she was a "Welcome-ranger." After consulting a computer screen, she said, "Your site is Bobcat Zone, site 27." She chuckled. "You know that means your movie is *Werewolf Park*?"

"I thought I had a choice of three movies to watch."

"Well, you do, really," said the ranger. "But each movie is projected to a different area around the dome. Your site location determines which film you have the clearest view of."

"*Werewolf Park*." Mark winced. "Now that you mention it," he said, "my son did have me arrange that we see a horror film."

"It is pretty horrible," said the ranger, lightly, as she handed Mark his site receipt.

"Good. I hope he falls asleep in the middle of it. He'll need all the sleep he can get before the Leonids."

The ranger gave a quizzical look. "Before the what?"

"The Leonid Meteor Shower." Mark could scarcely believe the woman hadn't heard of it. He'd thought that everyone had heard of it. "It's very concentrated this year," Mark went on. "A one-day supermaximum. And tonight's the night."

"That's interesting," said the ranger in a tone of voice that contradicted her comment. Then she added, "You know, our planetarium can do meteor showers."

"Not like this one. They predict it'll be the brightest Leonids in four hundred years."

"We can do bright."

"No, you don't understand." Mark leaned in over the counter. "In medieval times, there was a meteor storm like this. It was brighter than all their lamps and candles—like a pale white, cold daytime. People ran into the streets, screaming. They thought it was the end of the Earth."

The woman's look of indifference changed to one of concern. "I hope it won't frighten the campers."

In the camp store, Mark found the boys looking at the dogs. Perhaps ten of them milled free but arrayed themselves in a near straight line, each under its own scent bracelet.

"Can we rent a dog?" said Kevin.

A store-ranger looked up. He took a scent bracelet from its hook and walked over to Mark and the boys. A Golden Retriever followed—jumping and bounding to get close to the bracelet.

Mark shook his head. "I think we'll pass on the dog. We're only camping for one night."

"Aw," said Kevin.

"I know," said Mark. "Maybe next time. I think we have enough to keep us busy."

"Well, if we can't rent a dog, can we buy rabbit food?"

"Rabbits?"

"It's in the brochure," said Adrian. "The rabbits just run free."

Mark canted his head. "Rabbits and dogs?"

"GM rabbits," said the store-ranger. "They're engineered to produce a scent that dogs hate—and people can't smell at all."

"Fine. We'll take some rabbit food, then."

"Good." The ranger took a package from a shelf. "This should suffice for a one-night stay. Do you need any gear?"

Mark laughed. "All of it."

They rented three sleeping bags, a cook kit, an assortment of foods—freeze dried, fresh, and frozen, and a bag of charcoal.

"Can't we have a wood fire?" asked Adrian.

"I'm afraid not," said the ranger. "No wood fires permitted. It's the smoke and air pollution. And we found that smoke makes the planetarium laser beam visible. Destroys the illusion." He put the charcoal next to the other gear they'd rented. "Special, no-smoke charcoal. But don't worry. You guys will have fun, even without the wood. Campground-X provides the absolute best in wild camping."

"Wild camping?" said Mark.

"As opposed to programmed activity camping." The ranger ushered them over to another counter where there were assembled tiny scale models of tents. "Now, let's choose your tents. Two of them, I assume."

Mark nodded.

The ranger picked up one of the models and handed it to Mark. "Your boys might like the Star Hunter tent. It has a clear window on the top so they can look out at the stars at night. It has zippable shade of course." He picked up another little tent. "Or the Black Cat. All black. Like being in a cave. Kids like it—when there's more than one kid, that is." He picked up another model, "The Woodsman," and handed it to Kevin. Both

boys pawed over it, zipping the door flaps, peering through the side window, snapping the elastic cords holding on the tent-fly.

"This is a nice tent," the ranger went on. "You can stand up in it. Makes it a little hard to attach the tent-fly." He raised a forefinger, as if he'd just thought of something. "But you won't need the fly. No rain tonight. Don't know why."

Mark furrowed his brow.

"There's a meteor shower tonight," said Kevin.

"Oh," said the ranger. "So that's why the overnight rain and morning fog were canceled."

"We'd like the Woodsman," said Kevin.

"And the same for me," said Mark.

"Excellent." The ranger filled out a slip. "Do you want us to set up your tents?"

"No," said Mark. "We can manage that, I think."

"Good decision. Woodsman tents have Auto Setup. It's fun—like watching a spider being born." He ushered them toward the end of the long counter. "Just one more item. If you intend to watch a movie, you'll need to rent a speaker. You do intend to, yes?"

The boys indicated yes.

"You have two tents. I'd suggest two speakers."

"Just one," said Mark. "I'll give the movie a pass." He handed over a credit card and his campsite receipt.

The ranger looked at the receipt and smiled. "*Werewolf Park* is your movie. Yes. One speaker is probably right. We'll drop all this at your site."

Mark thanked the man and then led the boys toward the door. As they started away, the ranger called after. "The speaker is wireless. But don't take it away from your campsite. It'll make a big racket if you do."

Mark chuckled. "We'll be good," he called back. As they walked out into the open greenery, a near perfect emulation of a rural campground, Adrian said, "It sounds like fun—lying flat on your stomach, looking out of your tent and watching a movie."

Mark laughed. "You know," he said, "my grandfather told me that when he was a kid, they had outdoor movie theaters you drove your cars into. You watched movies through your car's windshield."

"Really!" said Adrian, his voice squeaky with enthusiasm. "That sounds wizard. Why don't they have them anymore?"

"I don't know."

They went swimming that afternoon and Mark could not fault the lake. It was a lake: grassy banks, the occasional fish, and the bottom was dirt—not concrete. He was even having second thoughts, charitable thoughts, about the domed campground; there was something to be said for being clad only in swim trunks and not having to be slathered with sunscreen. Although the nature sounds were recorded—probably recorded, he couldn't tell—the rabbits were real and of several exotic breeds. He himself was looking forward to feeding them.

After the lake, they meandered over to the activity center, Mark to enjoy an espresso latte, and the boys to check out the latest arcade games.

After the sunny brightness of the lake, the activity center seemed dark—especially so in the cobalt-blue confines of the arcade where a flurry of colored lights from game consoles substituted for the brilliance of the sun. Also in the arcade, a snub-nosed marquee invited campers into the free “Camp Shorts Cartoon Theater.” An assortment of vending machines, taking not money but Yummy-tokens, flanked the theater entrance.

Standing with coffee cup in hand at a respectful distance from an imposing two-person console, Mark watched as the boys played. He realized first that the boys were good. The kids seemed thrilled by the games, and it was clear they were having the adventures of their lives. Mark analyzed that last thought. Kevin wasn’t lacking in adventurousness; he just preferred to get his excitement in a virtual world. *I guess with simulations, you’re always, in some manner, in control. Real adventure without any real danger.* Mark disdained the notion, but then reconsidered; as a kid in Scouts, it was the same thing—doing things that seemed dangerous, but deep down, knowing they weren’t. The scout leaders wouldn’t have allowed anything truly risky. *Still, Scouts was real.* Mark held both hands around his warm coffee cup and thought.

He decided that after the games, he’d tell Adrian that he was borrowing Kevin for a while—to take him on the nature hike. He had some talking points, now. Perhaps he could make Kevin see the value of real life over the electronic substitute. As for Adrian, he could deposit the kid into the Camp Shorts Theater for a half-hour and supply him with some Yummy-tokens for popcorn and lemonade.

Except for the rabbits, Mark and Kevin had the Nature Walk to themselves. They walked in silence and the lack of conversation seemed to make Kevin nervous. He fidgeted, starting at any sound, any rustling of the leaves, any appearance of a rabbit popping out of the undergrowth. Mark couldn’t tell if it was nervousness or boredom. Mark himself felt nervous; without Adrian around, he needed to step in and be a parent—and he no longer knew how.

Suddenly, a very large, fuzzy, tufted eared rabbit hopped onto the path. Kevin and his father froze.

“It’s a Giant Angora,” said Kevin.

Mark smiled, remembering how the boy used to be a nut on animals. Seizing the opportunity, Mark slowly sank to his knees and the rabbit came up to him. Mark, amazed at how friendly the campground fauna appeared, stroked the rabbit’s soft white fur. A few moments later, Kevin knelt and did the same.

“This is certainly better than a simulated rabbit,” said Mark.

“What?”

“I mean, a virtual-reality rabbit.”

Kevin favored his dad with a look. Mark recognized it as the “my dad has really lost it” look. But, having gotten a response, he pressed on. “It’s natural for a boy to want to slay dragons, to want to do great things and have fabulous adventures, but these video games—”

“What’s wrong with video games? Video games are great!”

“But they’re not real.”

"They're real enough." Kevin clenched his fists. "They're better than real." He glowered at his father, but without making eye contact.

"Look. Kevin. Real adventures are—"

"What good is it going on adventures if you . . . if you have to lose stuff?"

"Lose stuff?" Mark tried to puzzle it out. "Do you . . . do you mean my going on the Moon expedition?"

"Why did you go away?" Kevin shouted, his voice anguished, his face contorted and his eyes beginning to gleam with moisture. "Why did you leave me?"

"Leave you? I'd never leave you." Then Mark realized that he'd done exactly that—at least from a young boy's point of view. Yes, they'd talked every day, but . . . "I'm sorry, Kevvy. I just didn't—"

"Don't call me that!"

Mark winced. He'd slipped and called his son by his baby nickname. He looked at his son's tearstained face and understood that there was nothing he could say to explain his leaving. *Maybe in five years or so, when he's reached the age of wanting exploration—maybe then, he'll understand.* "Kevin. I had to go to the Moon. It was my job." Mark realized he was being disingenuous—he had to be honest with his son. "And it was important to me."

"Wasn't I important to you?" said Kevin, his voice beginning to break.

"Nothing's more important to me than you." As he said it, Mark realized he meant it; he'd never willingly leave his family again.

Not knowing what else to do or say, Mark reached out with both arms and pulled the boy to his chest, enfolding him, hugging him. At first, Kevin pulled away. But then he leaned his head against his father's shirt and sobbed.

"I'm so sorry," said Mark, gently. "Why didn't you tell me?"

Kevin said nothing and for the next few minutes, neither of them moved nor spoke.

There came a rustling sound, and Kevin, obviously acutely embarrassed, drew back and rubbed his eyes dry with his fists. Quickly, Mark stood.

Jogging down the path, Adrian came into view. "Are you finished with your nature walk yet?" he said, breathing heavily. "It's almost teatime. And I'm a bit hungry."

After a dinner of spaghetti and meatballs, commonplace fare made exotic by cooking it over wood-scented charcoal, Mark tried to convince the boys to take a nap; they'd have a very late night ahead of them since the meteor shower would peak after two in the morning. But the boys would have none of that. Instead, the three went to the nightly, gas-powered, communal campfire. Lots of songs, hokey skits, forced fellowship, the smell of burning wood, blowing embers but with no smoke. Then, as the flames dimmed, it grew dark. Almost by instinct, Mark looked skyward. But there were no stars. After an instant of panic where he thought the sky had clouded over, he realized it was the dome that blocked the starlight. As he watched, it slowly became totally opaque. Then, from the tree-mounted all-camp speakers, Mark heard a soft voice. It seemed to

come from everywhere. "The movies will begin in ten minutes."

Mark and the boys hurried back to their campsite. Although Mark knew the boys should be napping, that would be asking too much. He settled for them getting into their sleeping bags and peering out the tent door, watching the movie.

In his tent, and even without a speaker, Mark could tell that *Werewolf Park* was truly dreadful. And in any case, Mark knew he'd enjoy listening to the kids discussing the film far more than he could possibly enjoy the film itself.

In his sleeping bag, listening to the chatter, Mark smiled. There was something timeless about kids camping in a tent. He heard the boys giggling at the movie and wondered if, when he was a kid, he laughed at horror movies. He thought not. He remembered being wonderfully scared by them. But when he was a boy, there were real dangers, not like now when danger was systematically eliminated from all things. And the boys knew it. Without the possibility of danger, could scary stories evoke fright anymore? *If not, something important has been lost.*

Mark listened as the boys discussed werewolves.

"I wonder," said Kevin. "Could a werewolf change under the full moon in a planetarium?"

"I don't think so," said Adrian. "I think he'd need the real moon."

"But what if it was cloudy outside. Doesn't a werewolf have to see the moon to change?"

"Probably."

"Well," said Kevin, "what if there was a full moon and it was cloudy and the werewolf went to a planetarium to see the moon. Do you think that would work?"

Adrian giggled.

Mark shook his head, sounding a gentle whir as his cheek rubbed the fabric of his sleeping bag. When he was a boy, they didn't see movies on campouts; they told scary stories to each other. *Is there even such a thing as a scary story anymore?* He remembered back to when he'd snuggle all the way into his sleeping bag and read a spooky book by flashlight. He didn't think that Kevin even owned such a book. *But maybe kids these days sneak their laptops under the covers and surf the Net when they should be sleeping.*

He heard the kids joke about smuggling a swarm of bees into the campground and releasing it. Both boys seemed to think it a great idea.

In his sleeping bag, Mark thought so as well. It was good to know that the boys did have those renegade tendencies. He almost laughed, this time at himself. He wondered if, as a parent, he'd reached the "vicarious age," that age where he borrowed some enjoyment from his child's boyhood.

*The annoying chirp from the engines. And the flashing lights from the lunar rover grew bright as it came to ferry him and the last of the expedition to the launch vehicle.* Mark, sweating, opened his eyes, waking from his dream—but the chirp and flashing lights persisted. Momentarily disoriented from a rough awakening in an unfamiliar place, he sat bolt upright. Then, his brain following his body into wakefulness, he unzipped



his sleeping bag and checked his wristphone. One-thirty A.M.—digits clearly visible in the sparkling light. He silenced the alarm and scrambled out of the bag, fully clothed save for his shoes; when he'd gone to bed, he'd had a notion he'd be in a hurry when he woke.

He slipped on his sandals, crawled out the tent door, then stood and gazed at the sky. Brilliant points of light streaked across the sky, leaving thin, straight, white lines in their wake. Tens, hundreds of streaks, bright enough to read by, seemed to cut the heavens. The meteors came from one part of the sky and their streaking made Mark feel as if he were racing into a tunnel of fireflies. The radiant, the region from which the meteors seemed to originate, was the constellation Leo: stars forming a triangle next to an inverted question mark with the navigation star Regulus shining bright at its base. Except now Regulus, the heart of the lion, could scarcely be seen against the dizzying white kaleidoscope of rocks from space burning up in the atmosphere.

A dazzling flash as if from a cosmic camera momentarily washed out the trails of the meteors. A bolide, an exploding meteor with fiery fragments shooting off in half a dozen directions—Mark knew that if he were outside the dome, he'd probably have been able to hear it. As his eyes recovered from the flash he became aware that he *did* hear the whizzes as the meteors streaked across the sky—no doubt his imagination supplying sound effects. With a start, he realized he'd forgotten to take his binoculars, but there was no way he'd return to the tent for them. Then he realized he'd forgotten about the boys as well.

He forced his eyes away from the sky and dashed into their tent, surprised for an instant that the tent door was open and the mosquito screen unzipped. But of course, there were no mosquitoes in Campground-X.

He shook the boys awake and, impatient with their groggy sluggishness, unzipped their sleeping bags. They also had slept in their clothes, but in their case, it was probably not a premeditated decision—they'd likely fallen asleep during the movie.

Sleepily, and under strong prodding, the kids crawled out of their sleeping bags and out of the tent.

They clambered to their feet and stared up at the sky.

"Gosh," said Kevin in an awed whisper.

Adrian stood open-mouthed, the meteors reflecting in his wide eyes.

They stood close, a silent tableau. Then, after an indeterminate number of minutes, Kevin wrinkled his nose. "What's going on?" he said. "Something's happening."

Slowly, the stars began to fade while at the same time, ghosts of the stars, a few degrees away, became visible and grew in brightness. More meteors than ever crossed the sky, but their brightness and violence faded—and soon their number declined as well. Finally, the ghost stars, shining brightly and not twinkling, entirely supplanted the originals.

"God damn it!" Mark shouted as the realization hit him. "They've blacked out the sky. It's the planetarium. They're projecting a simulation." He balled a fist in anger and indignation. "Wait here," he said through clenched teeth.

"Why would they—" Adrian began.



"Just wait here." Mark turned and set off at a run toward the campground administration building where they'd checked in. It was almost as far away as was possible in Campground-X, not quite a quarter of a mile away.

As he neared the facility, sprinting past the strangely menacing though dormant X-porters, he saw a light peeking through blinds on the second floor. He thought he'd have to beat down the door, but he didn't need to. The activity center lounge on the first floor turned out to be open 24/7. Mark dashed into the building, looked for a staircase and sprinted up to the second floor.

There, he found a number of doors, one of which had the legend,  
Campground Operations  
Authorized Personnel Only

Roughly, he twisted the doorknob; he was quite willing to bash that door down if he had to. But the knob turned and Mark stumbled into a room filled with electronics: control panels, video display screens showing the camping areas, and an audio panel with a desk microphone. A man sat at what was obviously the nerve center—the biggest panel with the most numerous switches and sliders. He stood. "I'm sorry," he said, "campers aren't allowed up here." He narrowed his eyes, "Unless there's an emergency." He took a step forward "Is there an emergency?"

"Damn right, there's an emergency," Mark said, gasping from his run. Seething, he broke his gaze from the man and glimpsed a desk plaque with the legend, *Douglas Cranford, Evening Supervisor*. Then he darted to the window and pulled up the blinds. "That, Mr. Cranford," he said, pointing to the sky. "That is the emergency!"

"The meteors?" The supervisor came over to the window and looked out. He laughed. "Don't worry. It's just a simulation. It's not real. There's no danger. You can go back to sleep."

"I know it's not friggin' real!" Mark was aware he was shouting. "Turn off this stupid phony sky. I want the real sky."

"Our planetarium sky is the most faithful, the most—"

"Turn it off!"

"I'm sorry, sir. I can't do that."

"Can't!" Mark darted to the control panel and started throwing switches at random while looking out the window to see if the sky had changed. "I'll show you *can't*."

Mr. Cranford strode to the panel and tried to return the switches and sliders to their previous settings. "Will you stop this!" he said. Four hands played over the panel switching and unswitching. "I can have the police here in five minutes."

Mark, seeing he was having no success, sighed and stepped back from the panel. "I'm a customer, a camper," he said, trying for a soft, civil tone. "I request, no demand, you switch the dome back to clear."

"I'd like to accommodate you." Cranford sat, heavily, and swiveled his chair to face Mark. "But I'd lose my job."

"What?" Mark waved an arm toward the window. "For letting people see the night sky? Ridiculous!"

"Yeah, I know." Cranford slid the chair forward. "Look. I'd like to switch

the dome transparent, but a camper called. She said her children were frightened out of their minds."

"You mean, because of some narrow-minded idiot who—"

"I looked and she was right. The meteor shower was much too violent, much too frightening for our campers. I had no choice."

"Of course you have a choice." Mark turned toward the door. "But since you won't exercise it, we'll just have to go *out* and watch it—under the real sky."

"Go ahead if you want to die of exposure. You'll freeze out there."

Mark took a step toward the control panel. Nervously, the supervisor stood again, interposing his body between Mark and the panel. "I can't believe this," said Mark, pointing to the banks of controls. "Technology should help us explore the unknown, not hide from it."

Cranford glanced at the control panel. "Oops," he said. "Now look what you've done. You turned the announcement system on. They could hear us throughout the entire campground."

"I don't care if they can hear us on Mars," Mark shouted as the supervisor reached for the switch. He turned on his heel and stormed out the door, slamming it behind him. He flew down the stairs and began jogging back to his campsite. Just as he left the building, he heard Cranford's voice—soft and modulated this time—coming from the all-camp speakers. "I apologize for the disturbance," he said. "A misunderstanding. Everything's fine now. You may return to sleep in complete safety."

"Safety!" Mark spoke the word as an epithet. But, as he padded back to the site, he thought again. He could well be cavalier with his own safety, but he couldn't take chances with the kids. They had no cold weather clothing and the summer-weight sleeping bags were useless. Cranford was right; the kids would freeze. *Wait! We could watch from the car. What am I thinking! We're on a friggin' island. We'd have to swim.*

He slowed to a walk. *Maybe the dome simulation will be enough. The kids are accustomed to simulations. Anyway, how can the real sky ever compete with full-color, holographic immersion games?*

When he reached the site, the boys were waiting for him. Then he saw the three sleeping bags rolled up at their feet.

"What! I . . ." Mark struggled to make sense of it.

"We heard everything you said," said Kevin.

"We heard the guy say oops," said Adrian. "And then you said you didn't care if they can hear us on Mars." Adrian giggled. "Then we got our sleeping bags together—Kevin said we should do it. We can watch the meteors from outside—in our sleeping bags."

Mark and his son exchanged a glance containing a deep message. Mark, thankful for the eye contact, didn't quite know what that message was but, as would be the case with SETI, the fact of a message was orders of magnitude more important than the message itself.

Mark reached over and tousled his son's hair. "I really appreciate the thought," he said. "But we can't do it. They're summer-weight bags. We'd all freeze."

"No, we wouldn't," said Kevin. "They're *all*-weather sleeping bags."

"What?"

"They're temperature adaptive," said Adrian. "We read about them in the brochure."

"Really?" Mark still felt behind the curve.

"Come on, Dad. We don't have all night." Kevin picked up a bag. "The fibers expand as it gets colder. We'll be fine."

"It's so they can use the same sleeping bags for their winter camping." Adrian picked up his bag and looked at Mark expectantly.

Mark laughed. "Okay." He scooped up his bag. "Let's go, then." He led the way toward the entrance. Then the boys took the lead and he sprinted after them.

At the entrance of the campground, they paused, looking through the small, tinted-glass windows of the night-doors. The frost-encrusted ground shimmered under the white fire from the sky.

"You know," said Mark, "we could just watch the shower from here."

"No," said Kevin. "Let's go outside."

"Yeah," said Adrian.

Mark smiled. That was the answer he'd hoped for. "Fine!" He pointed toward the lone tree on the knoll, leafless and dark against the streaked brilliance of the sky. "To that flat spot in front of the tree. We'll run there and jump into our sleeping bags, shoes and all, 'kay?"

"Yeah," from both of them. Their eyes were sharp, alert—like cats.

Mark opened the door and the cold wind wafting in from the ocean hit him like an icy fist. He took a quick breath and ran for the knoll. From the corners of his eyes, he saw the boys running beside him—and then ahead of him.

When, a few seconds after them, he reached the knoll, the boys were watching the sky and shivering.

"You know," said Adrian. "I read that the radio waves from the meteors go right into your head and it sounds like sound." He gave a spasm of a shiver. "Gosh, it's cold out here."

"Come on, guys," said Mark, pulling the release cords on both the boys' bags, "into your sleeping bags. Now, please!"

The barked command got their attention. They unrolled their bags side by side, and dived inside them.

Mark unrolled his bag beside Kevin's and cocooned himself within it, with only his nose exposed to the cold. After a minute or so, when his body had warmed the inside of the bag and he no longer felt like a frozen slab of meat, he ventured to look out. The meteors rained, lighting the sky with smooth streaks of brightness and reflecting oscilloscope-like waves from the rippling ocean.

Glancing earthward, Mark saw the boys, with barely more than their eyes visible, staring up at the sky. He peered at Kevin, what little he could see of him. The boy's blond hair looked like sparkling silver under the light of the plunging meteors.

Kevin, apparently sensing that he was being observed, turned his face toward his father. "I liked the way you talked to the camp ranger," he said. "That was neat."

Mark felt a welling up of parental pride—strong enough to even encompass Adrian. "Kevin, I can't begin to tell you how incredibly proud I

am of you."

Kevin gave a shy smile.

"Hey, look," came Adrian's voice. "On that branch. There's an owl."

Again, Mark smiled. *The kids are okay.*

"Wow, he's enormous." Kevin gave a hint of a chuckle. "Maybe it's a vampire owl."

Adrian giggled. "You know," he said in a low voice, oddly serious. "Thinking about *Werewolf Park* . . . I wasn't scared when we watched the movie, but I'm a little bit scared now. And . . . and it's sort of fun being a little scared."

"Yeah."

Mark wasn't scared, but he realized that his own sense of adventure, which he'd not even understood had been damaged, has been restored by the experience.

A noise from the campground entrance caught his attention. One by one, he saw kids carrying sleeping bags, some wearing sweaters or jackets, some not, come furtively through the door. Many had a parent in tow. Quietly, like ghosts, they ran to the knoll, got into their sleeping bags—and watched the sky.

## LITTLE RED ROBOT

My little red robot  
stares at me with dark eyes,  
toy arms raised in anger,  
teeth permanently set  
in a tin leer.

His stomach is full  
of toothy gears hungry  
for the fragile shell I inhabit,  
this flesh and blood and  
brittle bone.

Neutron by name,  
he poses a threat only  
when I wind him up, and I  
become a god and fool with  
each turn of the key.

—G.O. Clark



# DEBATABLE LANDS

Liz Williams

Liz Williams's forthcoming books include *Precious Dragon* and *The Shadow Pavilion* (both from Night Shade). One of her most recent novels, *Banner of Souls* (Bantam Spectra, 2006), is currently nominated for the Philip K. Dick Memorial Award. It was also a finalist for the Arthur C. Clarke award. The author's contribution to our annual slightly spooky October/November issue may look a little like fantasy and a little like horror, but it's all science fiction.

He chased it through the rushes at the water's edge, late spring, with the dark-mist twilight coming down around him. It was as though he had been chasing it lifelong, all through the racing years of childhood, past the time when he was initiated as a warrior and warlord's man, past the battles of Cadon and Burn, the years of love and the years of war. He knew that it was barely a short span since the hounds had put up the scent and begun the chase, but that was what it felt like. And already he was exhausted by it, bone weary, as though the day was already at its end. The thing he was chasing had sapped him: he could feel it sipping at his strength, leaching into marrow and sinew, spooling him out like the thread from a dropped spindle. Then it raised its unnatural head and gave a pealing cry and the sound brought him to his knees.

He was somewhere else. There were towers all around, made of red stone, higher than any building he had ever seen before. They reached up into cloudy greyness, rain on the way, and he felt dizzy and disconnected. Hastily he looked down and around. He stood on a grassy circle but the grass was not green, as it should be, but yellow and sere, as though the summer had been hot and long. It did not feel like summer to him, but there were no trees to show him the season.

There was, however, a plank of wood on a ball, tilted so that one end of the plank rested on the ground. A smaller plank hung from a frame, creaking in the rising wind. He blinked. A child was sitting on the plank, swinging to and fro. The child was staring at him, her face as blank as an egg.

"Where am I?" he cried. "What is this place?"

But the child's face cracked and she laughed and laughed, not kind laughter but cold, and he knew her for one of the Changing, or thought he did. Then the child and the towers were gone and there were only the rushes and the marsh's edge, with the wind whistling through the reeds.

That night, he dreamed of Less Britain.

He had been born there, on the sea's edge. First memories were of the salt wind whipping his face, the ocean thundering in and lashing against the granite cliffs until exhausted into froth. His father had died young, in Broceliande, but Broceliande was too often a word they used when they did not want you to know how a man had died, the magic in the name weaving a spell over blood and shattered bone, making death into music. A forest code, and he had never found out how his father had met his end.

His mother had gone under the protection of his uncle shortly afterward—not willingly, but she had little choice and he had rejoiced, seeing his uncle's fort as a safe place, true, but also the court in which he would become a man. He had been made welcome, his mother less so, and as she faded and sank in the shadows of the tower, he was trained in arms. There was little doubt as to what kind of man he would be: a warrior, but silent-souled, loving the woods and marshes, the sea's edge, solitude. When he took his totem, it was not raven or gull, but curlew, the sad cry in the dark, always at the edge of things. The other boys, and, later, men, recognized this: he was left alone.

When he was thirteen, he killed his first man, a raider from the north-east. By the time he was seventeen, he had killed more, a man for every year of his age. Shortly after that, the call came from the High Court and he left the sea-churned shores and the cold cliffs for the milder, wetter marshlands around the island kingdoms, in Britain-the-More.

He was initiated, all the same. They sent him out into the lake villages, the lands that had belonged to the king's queen Whiteshadow, that she had brought with her as dowry. He saw the marsh homes of the small dark people, the ones who had been there since time began and the moon was set on its track. He did not understand them, and they did not trust him, although they admired the iron spear he carried and he saw them looking at it with longing. They were covered in blue markings, allowing them to disappear against the reeds and the coiling mist. He painted himself with the same, and went out into the marsh when the early sun was a brass circle in the east.

That was when he saw the thing, but that came later. When he first took the coracle out into the rushes that marked the channel, a curlew flew across his path, calling its ghost-cry, and he knew it would be a good killing day. He speared a heron shortly after that, laying its striped corpse on the slats of the coracle, admiring the beauty of it. Then a crested duck, but never the totem he was seeking: hunting was a pastime, nothing more, but it was preparation for the initiation feast. He had no intention of being unsuccessful.

He heard it before he saw it. At first he thought it was one of the booming birds that rose like reeds, with their necks stretched up from the marsh. It was a long, belling cry, similar to bird or hound, but with a

strange pattern to it, like someone crying out in a language that he did not understand. Maybe it was one of the lake people themselves, come stealing after him to take the iron spear, and he jolted round in the coracle. No one was there.

It came again and it was desolate, a spirit's cry. He reached for the charm around his neck, hazel bound with bronze to keep him safe from fire and water, and he thought it had worked because the cry was cut off, suddenly, as if choked. Then he swung the oar, took the coracle around a bend in the channel into a wide flat pool, and saw it.

It looked like death. It was all sinew and bone, with more legs than a natural beast, and a face made of spines, that as he stared, aghast, shifted to become something else, something human and ancient and sad. Then it bounded high in the air. He saw a twisting tail, ending in a spiked club, and all of it was the color of summer roses, or the inside of a dead man on the battlefield's earth. It was gone and he was left gaping after it.

He knew then that his initiation was complete: he had seen what he was supposed to see, yet he did not know what that was. He could not take this for his totem; it was no natural thing. And so, wondering, he paddled the coracle back through the channel of reeds, to the banks of alder through which a white sun was rising.

It was early, but he had seen enough. There was a bursting pressure in his head, the sense of a summer storm. He put his hands to his ears to block out thunder, then realized that it was within. It was not until he stumbled back into the alder groves that the pressure lessened and even then his head rang to the end of the day.

The high king's oak-man was silent, when he spoke of what he had seen. At first, Curlew thought that he was not believed. But yarrow thrown smoldering into the fire sent smoke into the oak-man's rafters and the oak-man passed a knife across the palm of Curlew's hand and proclaimed him a man of the high court.

That night, the high king asked him to tell the court what he had seen. He did so grudgingly, but the warriors did not laugh; something about his quietness, perhaps, or the black haunt in his eyes. The thing he had seen had left a scar on his soul, something he did not want to tell the other warriors, but perhaps they saw it in him all the same.

His account of the creature, his quest beast, excited them. Knives were stuck into the tabletop; toasts were made. The king watched with guarded interest; by his side, Whiteshadow's face was avid. They wanted to set out that night, run the beast to ground in the marshes, capture it and bring it back—living or dead, or so the head of the king's warriors boasted. Curlew did not think that was as easy a choice as it might seem, but he said nothing.

The king was indulgent, but held them back. Curlew, watching the king's face closely, thought he saw something pass across it, a shadow like the knowledge of a man's death, but he was not sure. The king was a young man, who looked old, and Curlew did not know what the king had or had not seen.

That night, he dreamed he was back in the marshes. It was afternoon,



the day glowing, but when he looked up he could see the stars and he knew that the glow was not coming from the sun. The beast came out of the light, walking on two legs like a man, but the rest of its legs were coiled around it, drifting like seaweed in the shining air. Curlew reached for the iron spear but it was no longer by his side and anyway, there was no need. His fear had drained into the light, leaving him empty and calm.

"What are you?" he said, and the beast replied with that belling cry that seemed to be made of words. He had the sudden glimpse of a great plain, grey and shivering with grasses, mountains in the distance that were the color of old ale. Home, but not his. Then it was gone and the beast and the dream with it.

Next morning, nine warriors rode to the marsh, leaving their rough-coated ponies restless at the water's edge. Curlew went with them, but did not follow them into the reeds. Instead, he waited, standing alongside the oak-man as the sun came up through the alder groves.

"That boy, the one they call Lamb," the oak-man said. "You know him?"

Curlew nodded. "I've seen him at the court."

"He is older than he looks. Lamb is his child-name; he has not yet seen his totem."

"Perhaps this will be it," Curlew said, with an idleness that he did not feel, for suddenly the back of his neck prickled like nettle-sting. The oak-man gave him a sharp glance.

"I will be surprised if he comes back."

"Do you know of this thing, this quest beast?" Curlew asked, echoing the previous day.

"No. I told you truth," the oak-man said. "But I have heard of things like the thing you have seen. They come after dark stars; war comes in their wake, and famine. They love the blood of men. There were a lot of things like that, in the wake of the great comet that swept the land a hundred years ago, bringing iron cold, disease. This is why I will be surprised if Lamb comes back on his own two feet."

"I will be sorry," Curlew murmured.

"If Lamb dies, it could lead to war."

"Why so? Is he a warlord's son?"

The oak-man nodded. "Bennek of the north marshes, beyond Broceliande. Your country."

"I know Bennek. Not an easy man." Curlew chose words carefully.

"Lamb is the only one left; he was fostered here. Bennek thinks it will bring advantage, that there will be the possibility of a land-claim."

"But not if the boy dies."

"Oh no. Not then. I told you. War comes in the wake of such beasts, and famine."

They fell silent, gazing out over the marsh. Curlew could barely see the rushes through the mist. One of the horses shifted, uneasy, and then the cry came, belling out over the water. Curlew looked at the oak-man and saw that his face had grown strained and old.

"I have not—" he started to say. Curlew put a hand on the man's arm, felt the trembling, did not answer.

Lamb did not come back. He had gone down into the water, along with four of the others. The ones who remained spoke of horror, their faces twisting with a lack of understanding, but Curlew had seen the thing in the marsh and knew how it crept into the head. He remembered his glowing dream and nearly smiled, but the slack, terrified faces before him drove the smile away and he could only think of the dead.

They rode back to the high court in silence and Curlew went straight to the chamber in the tower, leaving the oak-man to tell the king of what had taken place. He was bone-tired, as if the heat had been leached from his marrow, leaving him a thin dry stick. He thought that they might blame him for the tragedy, but they did not. The king said only, "We must find it. Find it and kill it." Curlew agreed, but the thought of going after the belling thing was a dreadful one.

Not long after that, word came from Lamb's father Bennek, demanding reparation.

"He wants land," the oak-man said, as they walked together on the ridge of the fort.

"Of course he does," Curlew said, surprised. "What else would he want?"

The oak-man shrugged. "A woman, perhaps."

"No woman is worth a son," Curlew said. "Unless she brings land with her."

"Well, that is the way of it, isn't it?" the oak-man said. "The lands he wants are not the ones that fostering might have brought. They are the swamplands, the ones that belonged to the queen, to Whiteshadow."

"That makes no sense. Half of that is swamp," Curlew said.

"And half is fertile water meadow. Good grazing."

"Her father took those lands in war, reparation in turn."

The oak-man gave Curlew a glance that was filled with amusement as well as curiosity. "You have learned a lot since you came here, and not just of war."

"Land is part of war," Curlew said. "What use is war else, if not for land?"

"What use indeed? But the lands that Lamb's father wants have always been debatable lands in consequence, subject to constant dispute."

"And now, more dispute. Will Bennek come here, do you think?"

"Almost certainly," the oak-man said. "The king will want you near, I think. You speak the language, and you know him. Ordinarily, he would not come; he would send warriors."

"And they would be sent back to him. Or their hands would." Curlew thought of the limed heads that marked the doorway of the fort, set into the lintel so that the voices of their spirits might carry the message out through all the worlds, that this was not a place to dishonor.

"Of course. But this is a matter of pride; the boy was the only son, the heir. He was in the high king's charge."

"I hold myself responsible," Curlew said, after a pause. "I was the one who saw the beast, whatever it is. I was the one who started things."

The oak-man sighed. "Who is to say who starts things? You did not make the creature. You did not summon it. Unless there is something you're not telling me."

Curlew laughed. "A quick enough head and my sword arm, that's the kind of power I've got. Not the sort of power that brings nightmares to life. The land is full enough of nightmares as it is. Keeps that come and go, spirits who pass between human and animal, warriors conjured from the trees. . . ."

"But nothing like the thing in the marshes."

"No. Nothing like that."

After that, there seemed little else to say. Three days later, Lamb's father arrived from Less Britain.

Curlew was the one designated to take the warlord out to the debatable lands. He did so without reluctance, glad to get away from the stifling fright of the court. Four deaths, bad enough, but since then the tale had grown until it was as though the cold clamminess of the marshes had crept into the stone of the fort, and into the bones and minds of men.

But when they reached the borders of Whiteshadow's lands, beyond the lake villages, Curlew realized that it was no better. At this time of the year, with the mist rising up from the stagnant water, black and slow between the reed-beds, there was more marsh than water meadow. The willows were straggling and rotten, and the alders, which otherwise would have gone to make good shields, seemed stunted. Yet Bennek slapped Curlew on the back, handed him a swig of Breton mead from his own leather flask, declared himself well pleased.

"Sure, now?" Curlew said. "It's a bit wet. No good for growing, if you ask me, whatever the summer grazing might be like."

"No matter," Bennek replied. He seemed remarkably cheerful, given his recent loss. "I have plans."

Curlew waited, but he didn't say any more. They rode around the bounds, then back to the court, arriving half a day later.

"What did you think?" the oak-man asked Curlew, that night.

"Of Bennek? Or of the lands?"

"Both."

"I think Bennek must be a madman or a fool and yet I know him to be neither. Nor does he seem so deeply grieved, for one who has lost his only son, and that recently. I think the lands are a wasteland, and Whiteshadow would do well to get rid of them."

"Whiteshadow does not think so, and nor does her husband. I heard her say that she wished Bennek had chosen almost anywhere else."

"They were her dowry," Curlew said. "I always wondered why."

Next day, he was given another chance to find out.

The high king asked him to ride through the lands, assess damage to the meadows, and the number of sheep and pigs still present. He was to talk to shepherd and swineherd. Bennek trusted him, it seemed, because he was his uncle's man: a good intermediary between the warlord and the high king.

He was halfway across the marsh, riding hock-high through dark water with the willows whipping in the wind, when he heard it, the same dreadful, belling cry. He felt his guts turn watery, his head begin to pound. He did not want to see it again. He drove the pony on but the pony needed no urging: it screamed as the cry rang out again. And then, some-

how, the thing was ahead of him, standing under the willows, beckoning. It threw its cry over his head and around his shoulders, roping him in. The pony reared, throwing him backward into the water, then bolted. He stumbled to his feet and followed the thing, which was loping through the swamp but leaving no ripples in its wake. It is a spirit, he thought, but he could smell it, a sweet rankness like rotting roses.

Then it was gone and he was among towers and a child's cold laughter, ending in dreams.

Back at the fort, he was summoned to the king's own chamber to tell his story. Bennek watched him all the while, with little light eyes, as though sipping the story from him. The king was summoned briefly away, to take a message, and, as soon as he was out of the room, Curlew said to Bennek, swiftly, in their own language:

"Have nothing to do with this place. Ask for any other lands; he will give them to you. This is an ill totem, and it has already taken your son."

"You are a good man," Bennek said, in the same tongue. "Loyal to your countrymen. I won't forget that. But it is none of your concern."

Curlew knew when he was being dismissed and he was only a warrior, no statesman. It was Bennek's business, not his own. He turned to the narrow window of the fort and looked out across the hearth fires, waiting until the high king returned. Bennek was due to depart on the following day, having secured his lands. Curlew hoped that was the last of it.

"It is a temporary thing only," the king said, once Bennek had gone. "He has asked for you, by name and by oath."

"I am no steward, lord," Curlew said. His sinews ached, as though his body was drawing in on itself. "And—I have a horror of the place." It was not a confession he would have made to anyone else.

"His son was slain," the high king said. "It is an honor bond. He trusts you."

"I wish he did not." But he knew he would be going, all the same.

Whiteshadow's lands—now Bennek's—did not have a fort to secure them and the people would not have accepted him into the lake villages. Curlew took up his stewardship in a shepherd's broch, a circle of old stone on a slight rise. This was foul land, he thought as he surveyed his new domain: the waters brackish, seeping in from the estuary of the great river, winter flooded and too low for frost to whiten and crack and kill any marsh-breeding thing. It was no wonder to him that the creature had taken up residence there: that was foul, too, unnatural. And he wondered whether Whiteshadow had kept it because of her dowry, simply because it was her own land, or whether there was some other purpose. The high king was surrounded by witches—Whiteshadow herself, his sister Sea, her mother Grain, all of them prone to jealousies and silences, spinning endless spell webs between them, sometimes to weave them together, sometimes to separate. Curlew had no time for women, apart from the usual thing. Whiteshadow's motives in keeping the land were suspect, and so was her release of it. He thought of the place of the great red towers and of the child, laughing as it swung, and shivered.

The day after that he rode around the bounds, with a dutiful reluctance

that felt echoed in the pony's nervous, plodding steps. He saw nothing worse than ducks. The day after that, he did the same thing, and the day after. On that third day, he saw a white swan drifting across a mere like a cloud and next moment it was gone. Only a white feather spiraled down to show where it had been, but there were no ripples in the water. Curlew watched the spot for a long time, but the bird did not reappear and as twilight drew on, he went back to the broch.

The broch was clammy and damp. He longed to light a fire, or a lamp, anything to keep the encroaching darkness at bay, but instinct told him not to do so, because once he did that, it would separate him from the night, creating a barrier that something might long to cross. He crouched by the small window of the broch, his sword across his knees, looking outward.

A blink. The red tower was back, blazing with light, a caer. He looked out onto a world of stone. There was a rushing sound as a sudden wind hurled something past, scaled, gleaming. Curlew jerked back. Blue light glowed high in the windows of the caer; Curlew knew magic when he saw it. He made a sign, hoping the blue light would go away, but it flickered and changed, grew brighter. That was when he knew he was doomed.

And soon after that, it came. It moved quickly through the stone world, standing upright on two legs, like a warrior. It was carrying something, a small form. Perhaps the child he had seen, or perhaps a lamb. Curlew could not tell. But it had the unmistakable scent of a hunter: blood and metal, he could smell it from inside the broch. It came up to the window of the broch and stared in: Curlew looked into eyes the color of bloody fire.

That was all he remembered. He woke the next morning to find himself lying by the window. He had pissed himself in the night and the earth stank of it. That was when he decided to ride back to court—to Less Britain if necessary—and tell the king to find another man. But he did not have to. On that day, Bennek came back.

Curlew glimpsed them riding through the reeds and for a moment, in the early morning mist, he thought they were the beast. He flinched back against the wall of the broch, but then the ring of metal harness across the water reassured him and he went out to meet them. Bennek had the self-satisfied look of a man who has pulled off a great trick.

"My Lord?" Curlew said.

Bennek dismounted and clapped him on the shoulder. "None of that, boy. You're one of us and you've played your part. You deserve a share of what's to come." A grey gaze, opaque as mist, Curlew thought. But he could not fail to deliver the warning. Devious Bennek may be, but he was still a fellow countryman and the friend of kindred; there had been foster ties in the past and that made him almost blood-kin.

"I have seen the beast," he told Bennek now. "And there is something else, something you should know. This is a gateway to the otherworld, a great red caer. I have seen it. It is set in a wasteland."

He expected fear to fill Bennek's face, anxiety at the least of it, but the warlord only laughed and again struck Curlew on the shoulder.

"Why, so it is as I had hoped."

"Hoped?" Curlew said.

"You think I wanted the land for *this*?" Bennek's sweeping hand indicated the rustling reeds, the glistening peaty waters of the mere. "There's nothing here except sallie willow and eels. The pasture Whiteshadow speaks about is as much of a myth as one of old Myrddin's stories. What I want is what you saw."

Curlew stared at him, disbelieving. "The wasteland?"

"The *key* to the wasteland, boy. The questing beast."

"The beast is a horror," Curlew said. He felt unreal, as though the world was drifting away from him, diminishing through the mists. "What can you possibly want with it? It killed your son."

"This is worth even a son," Bennek said and that cold grey glaze crept even further across his eyes, like ice in winter, and that was when Curlew knew he was mad. "The beast opens the lock of time, it unlocks the gateway to all the times that are, in this place and maybe more. That caer you saw is what will come, perhaps centuries from now when the water has drawn back toward the estuary and this has become solid ground. My oak-man has seen the past—a great swamp, with dragons moving through it. Imagine the riches that lie even in this meager place, that the beast can lead us to."

"Bennek," said Curlew, despairingly. "What is the beast?"

"A monster. A god. Who can say? My oak-man has looked into a dark glass and tells me that it is a spirit from the skies, but he does not know for certain. Help me capture it, now that these lands are mine, and perhaps we will find out."

"My lord—Bennek—I do not think it will be easily captured." *If at all*, but Curlew did not want to say that. You had to be careful when speaking with the mad; they could take your words and turn them against you, and Bennek was his lord, with armed men at his back. Curlew wondered what they thought, but did not look at them.

"But you agree with me, don't you, you do see that it *can* be captured, can be taken? All that is needed is the right kind of net and I have such a net, made out of bronze, fashioned with golden threads from the fire islands far to the south, my oak-man had it made for me. See? Do you see?" He reached into a fold of his tunic and took out something that glittered and sparked, only for a moment, before thrusting it back. Curlew did not have time to see if was really a net, but the forge-smell of spell work hung about it and he felt his scalp prickle. One of the horses stirred uneasily and blew a cloud of breath into the freezing air.

"And you can take us to it," Bennek said.

Curlew was sure, then, that this would be the day on which his death would come. He had known it ever since the beast had looked in through the window with its red eyes and its voice of a thousand hounds. Perhaps he had known it even before that, but he could not turn back. To run from your death is a shameful thing, postpones the inevitable, makes things worse. So he nodded only, mounted the pony and led Bennek and his men into the marsh.

A dark day, with the mist and the cloud seeming to meet at the tops of the reeds and brush them with wet. Nothing moved in the water under



the pony's feet, except the black swirls of peat as the sudden boom of a bittern caused the pony to shy. They rode for a morning and the sun rose no higher, then more than half a day and still the cloud hung low over the land and there was little light behind it. That was when Curlew knew that they had crossed into the Otherworld and left time behind. He also knew that the beast would be close.

When it came, it was without warning. There was a stifled cry from the last man in the group. His pony stumbled, he went down into the water and did not rise, even though the water was not deep at that point. Curlew's spear was in his hand as the beast rose from the mere, bloody water streaming from its red sinew sides. It gave its belling cry as it saw the warriors, and sprang backward into the marsh like an acrobat.

"After it!" Bennek cried and Curlew shouted, "No, it wants you to follow!" But it was too late. Bennek was racing ahead, driving his pony through the mist with the spell-net drifting after him like a swarm of golden bees. Curlew caught a last glimpse of the questing beast, a red spiny form hurtling through the reeds, and of the warriors in pursuit. The eight men, with Bennek at their head, seemed already insubstantial, the mist coiling through their bodies and swallowing them whole. Curlew hesitated for only a moment before bolting after them. If this was to be the day of his death, then best it came quickly.

He did not die. He did not find Bennek or the warriors, either, although a long way ahead there was a dusting of gold on the fleecy heads of the bulrushes and a bloody curl in the waters around. Curlew broke off one of the rush heads and rode on, not knowing what else to do, and gradually the light grew brighter. The reeds thinned and the channels opened out to a great shallow pool.

In the middle of the pool lay an iron boat. At least, this was what Curlew thought it must be: it lay overturned, with the hull upward, and it was made of a black-gleaming metal, tinged with green. Like a dragonfly's armor, perhaps, or the dragon of which mad Bennek had spoken. The metal surface was covered with knots and coils, spirals and signs, and Curlew knew it for magic even before he saw the beast.

It was crouching in the lee of the hull, in an opening. It held a human hand in its fist and was gnawing at the stump. It looked at Curlew from quiet red eyes and grinned at him with long curving teeth. Curlew stared at it, while the pony quivered beneath him, but the beast made no move. Then, it set the hand carefully on the metal beside it and opened its mouth, wider and wider, and Curlew hauled the pony's head around and kicked it crashing through the reeds while the baying of a thousand hounds tumbled through the air around him and opened up the worlds.

He did not look back. He rode on as the light rose and did not look right or left, although he thought he heard a child's cold laughter as he rode, and a strange splitting wail. He rode straight past the broch and over the willow border of Whiteshadow's lands, and into the long reaches of water meadow that sloped to the small snaking rivers. He rode all the way back to the high court and did not stop until the gates slammed shut behind him.



The high king was not there, but Whiteshadow was, sitting in her own carved chair at the table's head. She looked the same as ever, sad blue gaze and asphodel hair, but when he dropped the golden fleece of the bulrush head onto the table in front of her, saying not a word, she smiled.

"He failed," she said.

"He died," said Curlew.

"And the beast?"

"It lives yet. I think it will always live."

Whiteshadow shrugged, but with an effort. "It came with the comet, my father thought. Those were rich enough lands before then, if wet. Perhaps one day it will go back where it came from."

"Perhaps," Curlew said, and he sat down beside her, staring at the gilded rush until the heat from the fire reached his bones and the last of the golden dust rose into the smoking air and was gone. ○

## INTO THE DEEP

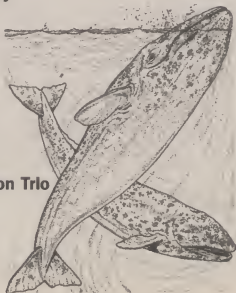
**The brains of whales are bigger than ours  
and more complex, they say,  
and the whales dive deeper than any living thing  
without machines. Deeper into the cold**

**dark water, miles below the light.  
They float down, their bodies full of milk  
and come back up, rising off the deep  
like fat blue angels. But they also say**

**that miles further than that,  
down at the very bottom,  
there are creatures  
who have never seen the light.**

**There are creatures  
tiny, like the head of a pin  
who do not breathe air.  
Who have never heard of the Kingston Trio**

**or the Voyager space probes.  
Nomads of an abyss  
so deep that stars do not exist.  
They float in colonies or live alone,**

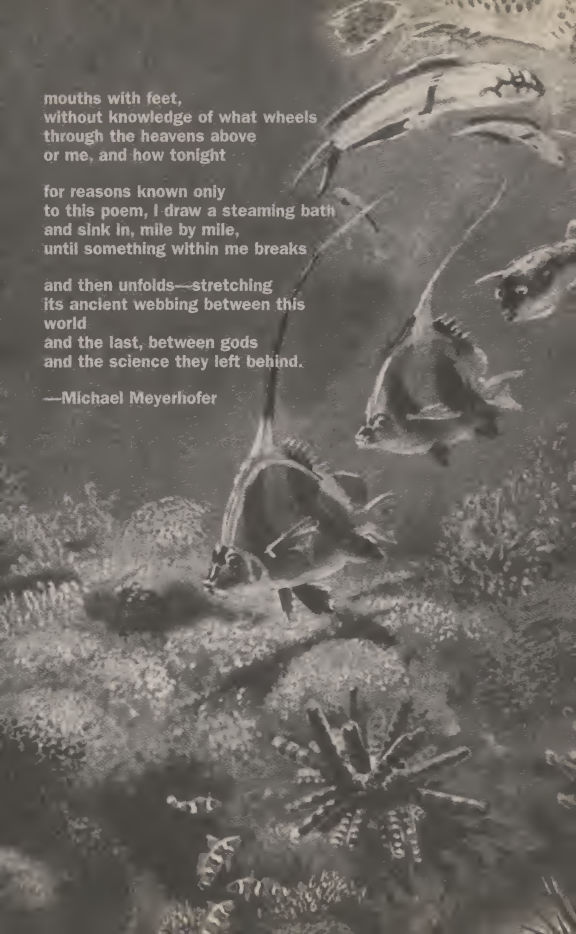


mouths with feet,  
without knowledge of what wheels  
through the heavens above  
or me, and how tonight

for reasons known only  
to this poem, I draw a steaming bath  
and sink in, mile by mile,  
until something within me breaks

and then unfolds—stretching  
its ancient webbing between this  
world  
and the last, between gods  
and the science they left behind.

—Michael Meyerhofer



Michael Cassutt most recently appeared in *Asimov's* with his thought experiment, "Me and Deke and the Paradigm Shift" (February 2007). He is the author of eleven books of fiction, such as *Missing Man*, *Red Moon*, and *Tango Midnight*; non-fiction like *Who's Who in Space*; sixty teleplays for such SF series as *Twilight Zone*, *Max Headroom*, and *The Dead Zone*; and a regular column on SF television writing, "The Cassutt Files" on Scifi.com. He lives in Los Angeles, where among other projects he is currently working on his first video game. Unfortunately, Mike has not been a prolific provider of short stories for our pages. His first *Asimov's* story, "A Star Is Born" appeared in our July 1984 issue. It was six years before another of his tales showed up in the magazine and another six years before his third appeared in our October/November 1996 issue. While we hope we don't have to wait six, or even eleven, years for his next tale, we're glad that he's chosen to return to our pages with a thrilling and deadly chase through . . .

# SKULL VALLEY

Michael Cassutt

"He's headed south," the woman from Homeland Security said, clicking off her cell phone.

Her name was Nicole Hulsey. Even swathed in a vest and khaki uniform, she was blonde and beautiful, impossible to ignore, especially when sitting next to you in the front seat of a car. But my admiring sideways glances had to be brief. Negotiating the switchbacks of old Highway 89 through the Cleopatra Hills demanded total concentration. The occasional roadside

memorial of cross and withered flowers showed the penalty. So did my memories of a dozen—or was it twenty?—crash sites over the years.

"Miss Hulsey," I said, "'south' doesn't tell me much. In fact, you haven't actually told me *anything* useful about this fugitive. Certainly not enough to let me catch him."

She had arrived at the Yavapai County Sheriff Station in Prescott at six AM, waving Homeland Security identification and dropping incomprehensible acronyms while juggling a cell phone, a BlackBerry and a shiny laptop. It appeared that she was chasing a fugitive, or so I heard when I arrived for my shift. "What kind of fugitive?" I asked Dan Fennessy, my supervisor. "Bank robber? Escaped prisoner? Free-range Democrat?"

He forced a smile, never an easy thing for him. "She hasn't said."

I found this vagueness to be uncharacteristic; Fennessy was precise, dogged, quick to snap "bullshit" at fuzzy thinking and vague phrasing—hence his scorn for those who had what he believed to be soft, unfocused political views.

"Is he armed?" This was usually an automatic trigger for a download of law enforcement jargon from Fennessy.

"Won't say and likely don't know."

"Okay," I said, my frustration growing, "if it's such a big mysterious deal, where are the Federal marshals?" I nodded to our computer and fax machine. "Where is the bulletin from Phoenix?"

Hulsey rejoined us at this point, and my amazement at Fennessy's uncharacteristic goofiness vanished: the agent from Homeland Security turned out to be tall, blonde, rangy and fit, the kind of woman who could appear on the cover of *Sports Illustrated*—a beach volleyball champ, perhaps. Her all-American beauty and exuberance had overwhelmed Fennessy's normal rigor; the man was in a stupor.

Not that I was completely immune. But Fennessy is the station's alpha male—good-looking in spite of his years, always charming, twice-divorced. I'm younger, but not notably easy on the eyes, with a waistline that suggests (however falsely) domestic bliss . . . and so stereotypically Latino that, compared to All-Americans like Fennessy and Hulsey, I might have belonged to a different species.

The goddess spoke: "The existence of this fugitive is classified. We don't want the incident broadcast, we just want him caught with no noise."

She waited for Fennessy or me to comment; we did not. "These are the only facts I'm authorized to release: approximately ten days ago, a male escaped from a Federal facility that was in the process of being closed—"

Now Fennessy sat up straight. He was a Tom Clancy reader, a military junkie. He often bored my ears off with tales of Titan missile silos around Tucson and the vast swaths of Arizona that served as Air Force gunnery ranges. "What Federal facility is within running distance of us?"

Hulsey blinked her long lashes, clearly not wanting to give up even this much hard data. "Table Mesa Research Station, up near Sycamore Point."

"Table Mesa." Now I couldn't help laughing.

"What's so funny?" Hulsey said.

"In Spanish they mean the same thing. 'Table Table.'" Hulsey actually

blushed. Probably hated to be one-upped by a rural deputy sheriff. Especially a fat, Latino deputy sheriff.

"Either way," Fennessy grumbled, "I've never heard of it."

Hulsey's BlackBerry twittered at her. She moved off to let her fingers talk, leaving us alone.

"You don't suppose they're parking Al-Qaeda out here," Fennessy said. "Could this 'Table Mesa' be some kind of Gitmo?"

I hadn't considered that. Maybe I *am* too trusting. "Here?"

"Shit, yeah! My old man came to Arizona during World War II to do guard duty! There was a big German prisoner-of-war camp down at Papago Park. They also had a bunch of Japanese diplomats stashed outside Tucson."

"I never knew."

"You're too young, Sandoval." He offered that strained smile again. "Twelve years in the department, and you still have so much to learn." Bubbling under this benign bit of teasing was something more ominous: the department was facing cutbacks, and I was facing a review.

Hulsey returned, this time with a hurry-up-and-go attitude. "Our last confirmed sighting was in Jerome two days ago. We have a report that puts him here." She opened the laptop, displaying an overhead satellite picture of Yavapai County.

She used her touchpad to illuminate a string of dots which marked a rough trail from the northwest, down the Verde River Valley, up and over Jerome, through the mountains and across Prescott Valley to the west and south.

"How come there are so many dots at the start of the line, and none past Jerome?" I asked.

"You had this guy tagged, didn't you?" Fennessy said.

Hulsey frowned, and pulled a plastic baggie out of her pocket. In it was what looked like dried-up contact lens crusted with blood. "We picked this up last night at the mouth of a mine there."

Fennessy barked a laugh. "Shit, lady, if he's got into those mines, you could look for years and never find him." Jerome was a former copper town built on the side of a mountain. Most of its mines had played out fifty years ago, but the shafts still honeycombed the place. I should know: as a kid, I used to play in them.

"Fortunately, we have a sighting from Prescott Valley the day after he ... carved this out of his arm."

I looked at Fennessy. "Is this guy pulling our robberies?" There had been a series of odd little break-ins and thefts clustered along the north side of Prescott Valley, the big development north of the city proper. Nothing major had been taken—just clothing, food, and, inexplicably, toys. My job for the day was to have been follow-up.

But Fennessy was still entranced by Hulsey and her many devices. He was drawing his finger in a straight line from Jerome through Prescott Valley. "If this guy's on foot, call it twenty-five miles a day, where would he be now. . . ?"

We came to the same conclusion. "Skull Valley."

Hulsey's phone got her again. Before she answered it, I told her I would bring a vehicle around to the front door.

As I headed down the hall to my ride, Fennessy winked. "Remember, Sandoval, if he *does* turn out to be a Democrat . . . shoot to kill."

Skull Valley was a rural community of a few hundred ranchers and retirees, too far from downtown for convenient development . . . so far. It was wooded, bordered by mountains, and served as a pathway to the desolate reaches of western Arizona.

It would be a perfect outlaw hideout—and had been for a hundred and fifty years.

"So who is this guy?" I said, as we headed down into the valley itself. "All I know is the word 'fugitive.' Is he old or young? Armed? Dangerous?" I indicated the laptop. "You wouldn't happen to have a picture, would you?"

She looked out the window, clearly taxed by these basic questions. "Young," she said finally, as if offering a gift. "Unarmed and not familiar with weapons."

"Please don't make me feel as though I'm buying vowels on *Wheel of Fortune*. Give me an age or I can turn the car around."

"Seventeen."

That was useful, if only to lower the chance that the fugitive was some kind of terrorist. Not that there aren't teenaged suicide bombers—but I found it unlikely that a 17-year-old would be an international bad-ass worthy of confinement at this Table Mesa facility.

"Does he have a criminal record?"

"No." She was losing patience, or so I assumed, when she exhaled as if she'd just finished a hundred-yard sprint, then brushed back her hair. "Look, if this were up to me, I'd simply give you the file. But this was classified far above me. I'll lose my job and career if it's compromised."

"You mean, further compromised." I smiled.

"Yes." Strangely, she wasn't amused.

A thought occurred to me . . . dumb, but I couldn't help asking. "He isn't some kind of extra-terrestrial, is he? Is Table Mesa where we keep the frozen aliens?"

She actually laughed out loud. "I wish! An E.T. would be easier to explain!"

Armed with that much data, I pulled off at the intersection of 89A and Sharps Road, a location that was as close to a chokepoint as you could find on this route through Skull Valley. There was an antique store—still closed at this hour—and a rutted parking lot.

To the south lay low hills and fairly rugged terrain. To the north, flat ranch land, still home to cattle. "Come on," I said, climbing out of the ride, making sure Hulsey had a hat and carried a water bottle. With her milky complexion, it was obvious she hadn't been working in Arizona for long.

I started us walking north, figuring that was Fugitive's likely route from his last known location.

"You've got to be kidding me," Hulsey said, following with obvious ill grace. "This is *it*? One deputy is supposed to find my fugitive in a hundred square miles?"

"This isn't television," I said. "If you're thinking the local sheriff is somehow going to 'seal off' a hundred miles, you're dreaming. Ten thousand Border Patrol and National Guards can't seal off a few hundred miles of fence. Up here we don't have the personnel to do more than throw up three or four roadblocks at a given time. Hell, we have a tough enough time finding a dead body in field. A moving target that doesn't want to be caught is much tougher. And by the way, we're talking more like five-hundred square miles."

I realized I sounded nasty. "All we're looking for is evidence, a sign. Another data point. Once we have some kind of projected path, then we rustle up a posse."

Three hours passed, in which Hulsey and I worked a search pattern sometimes as much as a hundred yards apart. When we happened to pass, we talked. That is, I talked. By the time the sun was high enough to blister, and the sky bright enough to blind, Hulsey knew I was thirty-four, that I was separated, that I had two children. What did I think of the current craziness over the illegal invasion? "I wish all you late-comers would have to pass tests," I said. "My family name is Sandoval, but my heritage is Hopi. We were here before the Spanish."

We found cattle and the attendant cattle pies. We saw rabbits, a hunting hawk, dozens of examples of Arizona flora that I, as a native, can still not identify. Beer cans, broken glass, a very new bra and a very old sneaker.

But no blood, no fresh footprints. "What would he be wearing?" I shouted to Hulsey at one point.

"He was wearing sandals when he escaped."

Which, given the thefts of clothing from P.V., meant he could be wearing boots, sneakers, or high-heeled pumps by now.

We could have looked all day. We could have looked all of several days, but shortly before ten AM my radio squawked with a message from dispatch: a Skull Valley resident named Elizabeth McKenna reported a prowler, description to come. She had apparently frightened him off by banging pots and pans and shouting. (Her age was given as sixty-eight and her husband was away golfing.) She had also found something so disturbing she wouldn't talk about it on the phone.

"This could be your fugitive," I said, as Hulsey and I humped it back to the ride.

"God, I hope so."

The only thing that troubled me was this: I had chosen to search at what should have been the *outside* of a box representing the maximum distance a human being could walk in eleven hours, the time of the last confirmed sighting.

The McKenna residence in Skull Valley was another fifteen miles down the road. Whoever or whatever this fugitive was, he could cover ground.

"I'm sure he was another illegal," Elizabeth McKenna said, with real anger in her voice, and a frown on her face. She was an otherwise pleasant, gray-haired woman in shorts and a polo shirt, leading us through her west pasture to this "disturbing sight." "They're always going through here. Why can't you stop them?"



What's amusing to me is how a uniform trumps ethnic identity: had Mrs. McKenna seen me in civilian clothing, she'd never have raised the subject, much less used that tone of voice. I suppose I should be grateful.

I opened my mouth to reply, but Hulsey said, "Ma'am, ten thousand border patrol and National Guards can't block a few hundred miles of fence. There aren't enough deputies in the department to seal off this area." Hulsey threw me a smug look behind Mrs. McKenna's back.

I nodded an acknowledgement . . . even as I was struck by Hulsey's strange posture. Her feet were arranged like a ballerina's. "Ah, you and your husband don't have horses," I said, noting the dry, horse-apple-free state of the corral, the rusted nature of the fencing.

"No, that was the previous owners. But . . . well, here's what I want to show you."

As Hulsey lingered a step behind—picking something up? I couldn't tell—we rounded an out-building and almost stumbled on a bloody carcass. It was easily identifiable as a calf—torn apart, half-skinned. I didn't need to get closer to identify the remains.

"That's what I found," Mrs. McKenna said. "I saw this man in the corral and started yelling at him. I don't know why, but I took my skillet and came out here, and there it was. What kind of . . . primitive being does that to a poor little cow?"

I was about to say, *anyone who buys a hamburger or bites into a steak*, but I was too busy looking at Nicole Hulsey again. If possible, she was even paler than before. "Thank you for reporting this, ma'am," I said, using my most soothing, professional voice. I could see fresh tracks leading into the brush to the west. "Nicole, why don't you stay with Mrs. McKenna while I check this out?"

Hulsey had pretended to be a deputy; now she pretty much had to keep up the charade.

The ground was dry, hard-packed, but I could make out the ridges of fresh bootprints, as well as spots of blood. I could picture our fugitive running along, chewing on a raw, bloody haunch. I wondered how hungry you would have to be to eat a cow like that.

And how strong you would have to be to wrestle one from a nearby pasture to this place.

The McKenna ranch abutted another property, this one abandoned, wedged against a wooded hillside and bordered by a barranca.

There was one surviving building, a grayed horse barn open to the sky on three sides. The tracks led toward it—

"Sandoval!

It was Hulsey calling from behind me. I turned left, toward her, away from the barn, just in time to see a man standing in the shadow of the structure.

Well, not a man—he was too short, too thick through the chest. Not a dwarf, but stooped.

He saw me, too, and he honest-to-God shuffled sideways as he tried to hide.

For an instant, his face entered the light. He blinked, as if he'd been in darkness. He was the closest thing to an ape I'd ever seen: heavy brow, su-

per strong jaw, big, square teeth in a mouth that was human even though smeared with blood.

But the eyes *were* those of a young human, and they were wide with fear.

I've only drawn my weapon a dozen times in that many years as a deputy. Part of the reason is luck, part of it is the reality of being a sheriff's deputy in central Arizona, where most arrests are disorderly drunks, battering husbands (and, occasionally, wives), and amateur pharmacists.

But I am officially death on the target range: I reached for the Glock, shouting, "Hold it!"

Either he didn't understand, or, more likely, ignored me. He crashed through the brush, down and through the barranca, then up and over the slope, out of sight.

"Hulsey, on me!" I shouted, and tried to follow. But within a few steps, I was slipping on sharp rocks, hindered by thick brush. I was lucky I didn't go face first into the barranca.

Hulsey's gear was her enemy, too, slowing her down as she tried to reach me. "Boy, this guy is fast!"

"Sandoval, he's getting away!"

"We're not going to catch him from behind." I was out of breath, but I'd already started back toward Mrs. McKenna. "This hill gets steeper and rougher. If we drive around it, we'll catch him coming out the other side."

"Do you think it's time we called for backup?"

I ignored this. "Mrs. McKenna! Thank you for your report. We're in full pursuit!"

And I kept right on going, letting Hulsey catch up if she could.

The moment we were back inside the vehicle, I gunned it away from the McKenna place and back to the road. I drove due west, paralleling the fugitive's line of escape, knowing that five miles ahead I could turn south again.

But I was so angry I was shaking. I pulled over, kicking up a spray of dust and pebbles. "What's the matter now?" Hulsey said.

"I'm not going any further and I'm not making any report until you tell me what the hell is going on here. What *was* that?"

"Don't do this to me," she said. She sounded about sixteen.

"You're not the issue here! We've got some kind of . . . two-legged carnivore running around loose! How am I supposed to catch him if I don't know anything about him? What the hell were you guys doing at Table Mesa?"

She put her hand to her forehead, rubbing it. "Start the car."

I took that as a gesture of surrender. But we had to travel a quarter of a mile before Hulsey could force herself to break security. "Did you ever read *The Lord of the Rings*?"

"I saw the movies."

My answer seemed inadequate, somehow. "Well, the whole history of the story is that Tolkien, who was a professor at Oxford, used myths to sort of reverse-engineer a time fifty thousand years in the past, when several different human races co-existed.

"He studied the stories that people have told for the past five, ten thousand years—stories about giants and trolls and ogres, and tried to imagine what would have inspired them."

"And he came up with . . . giants, trolls, and ogres."

"He wondered if giants, trolls, and ogres might not be how modern humans saw *other* hominids."

"You mean, like Neanderthals? Or those little people in Java?"

"Yes." I felt like a first-grader who had finally mastered the alphabet. "And a fourth distinct type that co-existed with both in the Middle East for several millennia. There may have been dozens of races. Even the Book of Genesis talks about it: 'There were giants in the Earth in those days.'"

"Fascinating." I had turned south and was trying to keep my eye on the dirt road while watching the brush for the fugitive. "What does this have to do with Table Mesa and the calf-killer?"

"Twenty years ago, a government agency that should probably stay nameless tried to do what Tolkien did—with genetic engineering. They took scraps of ancient DNA and injected it into an existing human genotype, which was carried to term by a female gorilla. The calf-killer, whose name, by the way, is Kip, is one of the results."

"You *altered* a human fetus? Is that even legal?"

I slowed down as the road dipped for a wash . . . the shallow end of the barranca I'd almost fallen into five miles to the east.

"I have no idea," Hulsey said. "I had nothing to do with the original decision. I was in grade school."

"What *are* you, by the way? Because I'm guessing you're not really with 'Homeland Security.'"

"What was your first clue?" she snapped. "I'm on loan from the State Department."

"You're not even a scientist?"

"They're long gone, believe me." She made an exasperated face. "It could have been worse: most of the people at T.M. are from the Government Accounting Office."

"That's the nastiest thing I've ever heard! Born and raised in a camp? Mom's an ape! No wonder he ran away."

"Don't get too judgmental. These aren't *people*. They're simply smarter gorillas. Their kind died out thirty thousand years ago because they couldn't cut it."

"Then why re-engineer them in the first place?"

"Someone was looking for soldiers, I think." Or guest workers, I thought. "They used a forty-thousand-year-old trace of DNA from some skull dug up in France."

I couldn't help laughing. "So this Kip really *is* a cave man?"

"Yeah."

"How *did* this guy get loose?"

"How else? The program lost its funding. Zeroed out. Somebody got careless and Kip ran away."

"Just like that."

"When a powerful Senator with Creationist leanings finds out you're dick-around with evolution and Darwinism, he can take your money away."

"What about the subjects? When the money goes away, what happens to them?"

Hulsey's face literally turned red. "The options were brutal. Turn them

loose . . . or terminate them. You asked what I am? I'm a re-settlement specialist. I help political refugees and former agents make the transition to life in the U.S. of A."

Okay. But it still wasn't enough to make me like Nicole Hulsey.

I called in a sanitized version of the story: fugitive sighted, deputy in pursuit, no immediate danger to the citizens of Skull Valley. But I didn't feel good about it. I wanted help. I wanted Fennessy's moral clarity in this very cloudy situation. But I had a review coming up. If I couldn't prove I could operate without having my hand held today, then when?

We skirted the ragged edge of the barranca. The terrain on our side was flat, studded with brush. The terrain beyond was rugged, a steep hillside covered with trees. A good hiding place.

"So what was the plan?" I asked Hulsey. "After you prove you can breed a Neanderthal, you cook up a bride? Raise a whole litter in captivity?"

"I guess so." She was having second thoughts about telling me anything. Tough, I thought.

"And your resettlement plan?"

She sighed. "We had a family in Oregon—retired anthropologist—who offered to give Kip a place to live."

I turned down my radio and motioned for Hulsey to be still. When it comes to tracking, ears are almost as good as eyes, especially when sight lines are blocked by thick brush. The arrangement of hills along the barranca formed a natural amphitheater—I had thought I heard a distant scraping.

But if I did, it was gone in the jingling of Hulsey's cell phone. "God-dammit!" she said. She started walking away, making me wonder why she needed privacy.

While she communicated with her mysterious colleagues, I climbed to the bottom of the barranca—where I was assaulted by a smell so unusual that I almost sneezed. It wasn't bad, but it wasn't perfume, either.

Then it was gone, like a puff of smoke. But I felt I had a direction.

When Hulsey appeared above me, I shouted, "This way," and pointed east through the twisty creek bed.

Hulsey managed to catch up within a few yards. "Does Kip understand fire?" I asked, already starting to pant from the exertion.

"Yeah. Whether his ancestors did, I couldn't tell you. I'm not an anthropologist."

I was relieved to note that she was looking winded, too. "Hey, aren't you going to ask me who was on the phone?"

"Hell, I'm just amazed you got service out here." I smiled. "If I'm cashing in another truth-or-dare card, I'd rather know what you picked up back at the McKenna ranch."

Hulsey actually blushed. "Okay." She pulled what looked like an arrowhead out of her pocket, only bigger, and bloodied.

"Is that a Clovis point?"

For the first time in our brief, contentious relationship, Hulsey seemed impressed. "Yes! A shot in the dark?"

"I spent two years as an archaeology major, U of A in Tucson."

"Gave it up?"

"Got my girlfriend pregnant. Very stereotypical, I'm sure—"

I stopped: there was a huge dead oak across the barranca and no way under it. I sniffed. There was the smell again.

I started climbing up the far bank, leading into the hills. "Kip shouldn't know a Clovis point," Hulsey said. "They weren't invented until his people had been extinct for twenty thousand years."

"Well, they didn't have the advantage of being raised in a modern prison camp with knives and forks."

She didn't answer, too busy struggling to the top. "What's that?" she said, sniffing.

"Not sure."

It took us fifteen minutes to ascend the hill. As we did, the brush gave way to pine trees. And there, hidden away fifty yards above me, was a cabin of stone and logs. I signaled for quiet, and pointed. Hulsey's eyes went wide, thinking, as I did, that we had Kip cornered.

As quietly as I could, I said, "Does he speak English?"

"He seems to be mute. But he *understands*. If you tell him to freeze, he should get the message."

He hadn't the first time, but there was no use arguing the point.

Climbing through the woods, I started to feel like an ancient hominid—living in a cave, eating what you found or hunted, fighting with creatures that looked like you, but had strange new weapons. Of course, my Hopi great-great-grandparents had lived that way, a few hundred miles from here, and only a hundred and fifty years ago.

We clawed up the slope, making enough noise to spook an elephant herd. When my boots hit level ground, I drew the Glock, took a breath—"Sheriff! Come out!"

No answer from the shack. I glanced back to see Hulsey lurking in the pines, then nudged the door open with my knee.

The place was dark, dusty, with a dirt floor. The first sign of recent habitation was a collection of torn wrappers from what must have been a box of Milky Way bars.

And toys! A doll. A See-and-Say. Colored squishy things suitable for a one-year-old.

Someone had also broken a bunch of sticks, probably to start a fire. There were coals in the fireplace. Long pieces of string or thin rope coiled beneath markings on the wall—blood?

Otherwise the cabin was empty . . . except for *two distinct sets* of tracks leading out.

"Well," I said as Hulsey joined me, "Kip isn't here. And he isn't alone."

"That's what the phone call was about."

"I didn't lie! He *wasn't* the only one. I kept saying 'them', didn't I?"

"You're not in court, you don't need to play games with language."

She stopped, clearly furious. "Fine. Yes. The project raised eleven . . . subjects. Six male, five female. Kip was the oldest at seventeen. One of the females was a year younger. I didn't know until that phone call that she'd escaped, too."

We were following the twin tracks, climbing deeper into what was now

a pine forest. To the right, between the trees, I could see flashes of Skull Valley. To the left, more trees and hillside.

I stopped long enough to use the radio, telling dispatch that Homeland Security and I were in pursuit, capture of two fugitives expected shortly. I wasn't exaggerating by much—the trail was fresh and so was the unique smell, which I now realized was a mixture of blood and hominid sweat. The terrain would only get rougher, and our escaped Neanderthal and his sweetie would be forced to slow down.

"Does she have a name?" I said, between breaths.

"Debbie."

"It's hard to think of them as animals when you call them Kip and Debbie, don't you think, Nicole?"

"I don't think of them as animals. I've spent the last two months trying to get them fake I.D.s and creating backgrounds, just in case anyone ever asks."

"But you're carrying a gun." Her vest had fallen open and I could see a Glock like mine holstered there. "In case of re-settlement failure, unholster and use as directed?"

She shot me a look I frankly didn't like. "Let me guess," I said, pressing her. "If these two happen to be shot while trying to escape, it will be two loose ends all tied up."

Hulsey didn't even try to deny it.

Still no signs of movement. But I felt we were close. And I thought about the end game—suppose they fought? Suppose I had to shoot one? If we needed assistance of any kind—medical or plain old muscle—how long before Fennessy and help could reach us? We were a good fifteen miles from the station . . . Yavapai County Medical had a helicopter, but the sheriff didn't. Anybody trying to reach us would have to park below and hike up.

Then I thought about Kip and Debbie. What was it like to grow up in a camp . . . treated like humans only when it was convenient? They had been given some language, had seen weapons, had no doubt been abused at times, and, I could only hope, received some acts of kindness.

What did they see? What did they think? What did they *want*? Surely not to be shipped off to a farm in Oregon, to rope dogies or bale hay or whatever the hell people did there, while waiting for death?

How long did Neanderthals live; anyway?

What would Fennessy and my other bosses do to me, since there was no way I would be cleared to tell what I knew: the best I could hope for was a pat on the back for "helping Homeland Security" in whatever it was they wanted done.

Suddenly Hulsey bolted ahead. "What are you doing?"

She poked the air in front of her as she stumbled into a higher gear. With her radio and other gear, she clattered like a skeleton making love on a tin roof.

And then she pulled that gun out of her vest.

I was too busy trying to catch up to complain.

She stopped, pointing into the shadows. "There!"

"Hulsey, get down—!"

She was actually sighting the weapon as—zip!—an arrow appeared in Hulsey's neck.

The most surprised person on earth, Hulsey reached for the ends of the arrow—one was slick with blood—as she choked and stumbled.

I caught her just as Kip showed himself.

Dressed in jeans and a heavy down jacket, he looked much like men I had seen on the res—or in downtown Prescott. Thicker, maybe, hairier, but *human*. Especially his eyes.

And he held the bow on me. Kneeling at Hulsey's side, I aimed my gun at him. "I'll shoot," I said, hoping Hulsey had told the truth about Kip's abilities.

Blood was pumping from Hulsey's neck. "Kill them!" she wheezed.

The woman looked a lot like Kip . . . smaller, in jeans and a man's shirt. Did they deserve to be hunted, killed, their skulls left for research? Or to bleach a hillside here?

Hulsey uttered a fatal sigh, blood bubbling from her lips. I've not seen a lot of death, but I knew this woman was gone. I wanted to scream at her. *You raised this boy in a camp! What did you expect him to do?*

I thought of my family—how they had foraged and farmed in Arizona for ten thousand years, only to be pushed aside by the Spanish. And then the Spanish became the Mexicans, and they were pushed aside by the Anglos. And now the Anglos were worried that the Mexicans were coming back.

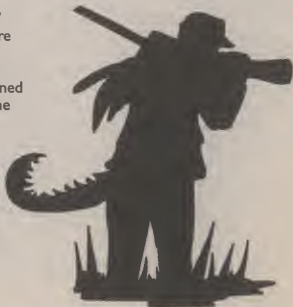
Didn't we all deserve a chance for a little peace? Didn't these two? They could disappear into the forest and likely never be found—

I turned to Kip. "Run." ○

## ENDANGERED

His 30-.06 on a rack  
Behind the cab, the dragon leans  
Out the window of his pickup,  
His beefy forearm tattooed "Sandy,"  
Asks you where the best hollows are  
For hunting humans, and whether  
They allow man packs around here,  
Cuz he's got a good tick hound trained  
For the purpose. Ain't been the same  
Since they outlawed shining—  
Used to catch them humans  
All in a passel at night,  
Clumped up in their lairs  
With the tops so easy to remove.  
Be a shame, though, right enough,  
If they actually became endangered.  
Hate to give up hunting altogether.  
He gives his wings a shivery flap.  
Prob'ly ought to start leaving  
The little ones to grow.

—P M F Johnson





# DARK ROOMS

Lisa Goldstein

**Lisa Goldstein offers us a poignant look at the magic of Georges Méliès, one of science fiction's first filmmakers. The story was inspired by "a photograph of an elderly Méliès selling toys in a train station. As soon as I saw the image, I knew there was a story in it."**

**N**athan Stevens first saw Georges Méliès in 1896, in the basement of the Grand Café in Paris. There, in the Salon des Indiens, the Lumière brothers had opened the first moving picture theatre, and Stevens watched, entranced, as a train arrived at a station, a man watered his garden, a blacksmith worked at his forge.

The pictures ended and the lights came up. The glow from the gaslamps was not harsh, but he sat there blinking, dazzled, his eyes filled with motion, with smoke and waves and wind-blown leaves. For a moment he wondered that his surroundings remained the same, that the train did not roar through the small room, flattening chairs as it went, or the sea crash through the walls and drown them all.

Near him people were picking up their purses and canes, putting on their coats, stepping over his legs as they headed for the door. Finally the theatre, so crowded a few moments ago, was nearly empty.

One other man had not moved. He was balding, with a drooping mustache and a trim goatee. He was blinking as Stevens himself had done, as if he were just waking from a dream, or loosed from some enchantment.

Then he smiled, perhaps at Stevens, perhaps at a lingering memory from the pictures they had seen together. It was a kind smile, Stevens thought; you might see an uncle smile just that way as he gave a present to his favorite niece. But there was something else in it too, something deeper and more serious, and Stevens thought the man might know more about these films, perhaps even know how they were made.

The man stood. "One minute, please," Stevens said.

The other man turned, a polite expression on his face. Suddenly Stevens could think of nothing to say, though he had been in Paris for six months and his French was nearly fluent. "A—an amazing thing, isn't it?" he said finally.

"We will all be changed," the man said, or Stevens thought he said. He put on his hat.

"Wait," Stevens said. "Do you know about these—these pictures? Do you know how it's done?"

The man headed for the aisle. Perhaps he hadn't heard. Stevens hurried after him, but the man had reached the stairs and was climbing them quickly. Stevens followed and came out into the street. It was still daylight, a stronger light than that of the gaslamps, and he blinked again, bewildered, feeling as if he had surfaced by stages from strange depths.

People walked past him or headed into the café, called out to each other or shouted for cabs. Coaches drove by, their wheels creaking, the horses' hooves clattering against the street. The new automobiles sped past, smelling of hot metal and burning rubber and factory smoke, their horns blating.

A man of the same height and build as the one Stevens had seen walked away down the Boulevard des Capucines, adjusting his hat. Stevens ran after him, reached him, tapped him on the shoulder. The other man turned, but instead of the pleasant smile he expected Stevens saw a fierce scowl. For a moment, still tangled within the enchantment of the moving pictures, Stevens thought the man had performed a magic trick, had shaved off his beard and mustache and changed his soft brown eyes to an icy blue.

"Yes?" the man said. "What do you want?"

Stevens walked away, feeling foolish. It was March, but the air still held the chill of winter. He drew his coat closer around him and walked on.

He was twenty years old, and had come to Paris to be an artist. He'd grown up in a small town on Lake Michigan; his father was a fisherman, and his grandfather had been a fisherman before him, and Stevens's own fate and future had seemed set—and would have been, if not for a maiden aunt who had taken an interest in him. In their town she was said to be artistic, said with pity and disapproval, in the same way people talked about the town madwoman. She had seen promise in him and encouraged him to escape to Paris; she had even given him some money she had from a small inheritance.

He had arrived in Paris a half a year ago. He'd rented a studio and painted every day while the light held, working hard; his aunt's money would give him only a year in Paris, a year and a half if he was careful. He began to meet other artists, and went to cafés with them in the evenings.

Then one day some friends took him to a studio he had never visited before. The paintings there were a revelation, not so much for their technique, though that was very good, but for the way the artist saw the world, the way he was able to take ordinary things and make them seem new, astonishing, as though no one had ever truly seen them before.

Stevens felt inspired at first, and worked harder than ever. But now all his paintings seemed lifeless, ordinary, compared to this other man's; they lacked something, though he didn't know what it was. He was good, he knew that, but perhaps he was not good enough.

Sometimes, when his work was going well, he thought he might be wrong, that he was brilliant, every bit the artist his aunt had seen. Sometimes, though, he would come up against his limitations, and then he

would feel resentful. Why had someone else been given this talent and not him? He worked just as hard, he wanted it just as much. He could have painted that dancer, that lake, if only . . . well, if only he'd thought of it.

The day faded into evening. He stopped at a restaurant for dinner and then, feeling restless, he wandered the streets, his mind still busy with the train, the forge, the garden. One of the films had shown a parent feeding a child, infusing even that simple act with magic.

As if the world around him was echoing his thoughts he saw the word "magic" shining out into the street, lit by the new electricity. He came closer and saw that it was part of a sign: "Théâtre Robert-Houdin—Magic Conjured Within." An old woman sat in a box outside, separated from him by elaborate wrought-iron bars, and so befuddled was he by the day's events that at first he thought she was a magic trick herself, that any moment she would disappear or turn to smoke.

"One franc," she said, holding out her palm. He paid and went inside.

The theatre was dim, lit only by gaslamps turned down low. From somewhere a piano played. At first he could barely make out his surroundings; then rows of chairs swam out of the darkness. He found an empty seat on the aisle and sat down.

A man stood on the stage with his back to the audience. He wore black formal clothing; the tails of his coat reached nearly to his knees. A woman in a shockingly small skirt stepped out from the wings. The man ushered her into a box and closed a door that covered her from the neck down, so that only her face was visible. He made a few passes with his hands and the woman's head floated out onto the stage, her eyes blinking, her mouth moving in a smile.

The head started back to the box, flew past it, returned and missed it again. It swung back and forth across the stage in panic, trying in vain to rejoin its body, and the audience, too, seemed to panic, a few even crying out in alarm.

The magician made another pass. The head went toward the box again and this time managed to glide smoothly inside. At first, horribly, it faced away from the audience; then it turned around and the woman smiled.

The magician opened the box and the woman stepped out, whole and safe. He turned toward the audience and held her hand, and they bowed and straightened. It was only then that Stevens recognized him; it was the man he had followed from the Grand Café.

Stevens sat through the rest of the show impatiently, barely seeing any of the other tricks. At the end he headed up toward the stage, pushing past the crowds of people going the other way. A door stood open at the side of the stage, behind the piano, and he went inside.

He found himself in a dim hallway, filled with objects he could barely make out in the gloom. He stepped carefully past wooden flats shaped like waves, crescent moons, stars, an Egyptian sarcophagus; past a man made of gears and wires. Ropes on pulleys draped down from the ceiling; three or four together tangled him like a spider's web and he pushed them out of the way.

He turned a corner. Something came toward him, a monstrous head swollen like a balloon, wobbling on a string-like neck. He stopped, his

heart pounding high and fast in his chest, and then realized that it was his own head, distorted in a mirror.

Now he noticed a door open at the end of the corridor, heard voices, laughter. He peered inside and saw the man, the magician, along with his assistant and the cashier. The assistant had stripped down to her petticoat and was changing into her street clothes. The cashier spat on a cloth and rubbed off the man's makeup.

Stevens went inside. The man looked up. He was younger than Stevens had first thought, in his mid-thirties.

"I know you, don't I?" the man said. He tugged at his mustache, as if it were connected to a lever in his brain that might help with his memory. "Where was it. . . ?"

"This afternoon, in the Salon des Indiens," Stevens said. "Where they showed those pictures—"

"My God, that was you!" the man said. He looked startled, as though their meeting twice in one day exceeded all the laws of probability.

"It's a funny coincidence, isn't it?" Stevens said.

"Is it? Do you believe in coincidence?"

"What else could it have been?"

"Any number of things, I suppose. What did you want, at the theatre?"

"To talk about those pictures. I saw the way you looked, after the lights came on. You were—you looked the way I felt. You know how they did it, don't you?"

"The pictures, yes." The man smiled, the same smile Stevens had seen at the theatre. "You love them as much as I do, don't you? I didn't see that then—I was in a hurry, I had to prepare for my first show here . . . But we were supposed to meet, weren't we? That's why you found me again. Coincidences are the world's magic tricks."

Stevens laughed, catching his enthusiasm. He would believe in coincidences if this man wanted him to; hell, he would believe in unicorns. "I don't know your name," he said.

"Georges Méliès." He bowed; in his formal evening clothes it did not seem at all ridiculous. "And you?"

"Nathan Stevens."

"Come to my house tomorrow, Nathan Stevens," Méliès said. "Do you know where Montreuil is?"

Stevens knew only that it was a suburb on the outskirts of Paris. "I'll find it," he said.

The magician's house was larger than Stevens had expected, grander. He knocked at the door and a woman answered, not the one he had seen at the theatre. Without saying anything to him she turned and called out "Georges!"

Méliès met him at the door. "Do you want tea?" he said, leading him inside. "Some pastries? No, what am I saying—you're not here to talk about trivia. Come on—I'll show you the camera."

They went down a hall, past rooms where Stevens glimpsed plush chairs, Persian carpets, mediocre paintings in elaborate frames. He had never been in a house as richly furnished as this one, and for a moment

he felt uncomfortable in his old trousers, his ragged collar hidden by a wool scarf. Then Méliès began to talk, and he forgot their differences and listened, fascinated.

"That wasn't the first time I saw those films," he said. "I was there the day of the premiere, sitting in the dark, and I could barely believe it when the pictures started to move. And when I came to myself again, my first thought was, This is for me."

Méliès led him up the stairs. "I offered them ten thousand francs for a camera like theirs," he said. "The Lumière brothers. They said they wouldn't sell it, not at any price. So I found another one, a different kind, but unfortunately it isn't as good."

He led Stevens into a room. The room held only a table, with a wooden box standing on top of it.

Stevens went to look at the box. There were gears in front of it, or behind it, and an eyepiece. "So that's it," he said. He ran his fingers along the smooth wooden surface, then bent and put his eye to the eyepiece.

"I'm still fiddling with it," Méliès said. "See, there's this screw here—it's supposed to wind the film ahead with every shot, but it's not working right. And I have to film outside, in the garden, because of the light. I've got a place all set up."

"So the film moves, like—like a kinoscope," Stevens said, straightening. "But you don't have to look into a box for the pictures—you see it up on the wall, the same time as everybody else. It's—it's —"

"Projected, yes," Méliès said. "Come on—I'll show you the garden."

"Not yet," Stevens said. He bent and looked through the eyepiece again.

Stevens visited Méliès often after that. They took the camera apart and put it together again, adjusted the screw and worked out where to perforate the Kodak film. Finally, after several false starts, they watched together as a second Stevens, this one formed out of light and shadow, walked across Méliès's wall, and, at the same time, by some strange alchemy, walked across the garden as well. When it was over they hugged and slapped each other on the back, shouting so loudly that Méliès's wife Eugénie came upstairs to see what had happened.

They went out celebrating that night. Méliès took him to places he had never seen before, restaurants and theatres at the end of alleys or up a flight of darkened stairs, where men juggled knives and beautiful women ate fire. Every turn seem to take him to new parts of Paris, and in his increasingly befuddled state he wondered if Méliès had conjured them out of thin air.

At one place he and Méliès had just sat at a table when a belligerent-looking man came up and told them they had taken his seat.

"What is it you say?" Méliès said in English.

Stevens laughed. He had never heard Méliès speak English before.

The man turned to him. "What are you laughing about?" he said.

"I'm sorry, I don't understand," Stevens said in English. "My friend and I are tourists, from the United States."

"Get out of my seat," the man said angrily.

He came closer. Méliès reached into the pocket of the man's overcoat

and took out a frog. "Excuse me," he said in French, holding the frog in the palm of his hand. "You seem to have a frog in your pocket."

"Get out of here!" the man said.

The frog croaked. Méliès put it in his pocket and they stood and ran for the door.

They hurried down a few streets, then stopped. Stevens was laughing too hard to breathe. "Poor frog, to have such an owner," Méliès said. "I'm glad we rescued it, aren't you?"

"Were you carrying that frog all this time?" Stevens asked.

Méliès turned serious suddenly, a drunkard's quick transformation. "Do you know, I don't think I was. And yet—somehow I knew it would be there."

"What do you mean?"

"I think—I think it was magic. True magic. There is true magic, you know. No one understands that better than a man who works illusions."

"What? No—no, you can't believe—"

"But I do. And do you know why I was able to work magic, when I never could before?" He put his face close to Stevens's; there was a thick smell of wine on his breath. "It's because you're here. Do you remember that day when we met, and then met again? There's a bond between us—I felt it when I saw you at my theatre. And you feel it too, don't you? Apart we're nothing, but together—"

Stevens nodded slowly. He did feel a bond, but it was because of their mutual love for moving pictures, nothing more. And yet—and yet—he hadn't seen the frog at the beginning of the evening . . .

Méliès laughed suddenly. "I'm very drunk," he said. "I'm drunk, and you don't believe me. It's all right—no one ever does. Let's go home, and we'll forget all about it."

The day after their celebration it was Stevens's turn behind the camera, filming while Méliès stood at a table and did card tricks. Stevens had a fierce hangover—they both did—but he found that if he closed one eye and looked through the eyepiece he was able to concentrate.

Two days later Méliès brought the film back from the developer. Stevens dimmed the lights and projected it on the wall, and they watched as Méliès passed his wand over the table, fanned out a deck of cards, pulled a missing card from his suit pocket. Méliès had made those motions yesterday, Stevens thought, and was making them again today, and would continue making them until the end of time, whenever anyone ran this strip of film. He had seen this magic before, of course, but this time it was him doing it; he was the magician, the priest of light and darkness.

The film ended, and Méliès turned on the light, and as he did so something else was illuminated for Stevens. He was not a painter; he had never been one. But this was another kind of art, and he could do this, could create something permanent with film and a camera.

He thought of his artist friends, and suddenly he realized that he'd nearly forgotten them, that he hadn't seen them in weeks. He wanted to tell them about Méliès, about his decision, and that evening he went back to the café.

But to his surprise the artists were scornful, both of Méliès and his art.



"My parents know his family," one of them said. "His father's a rich man, a factory owner. And his wife's rich too. You didn't think he made his money on magic shows and moving pictures, did you?"

The others laughed, all except Stevens. He thought of the opulent house in Montreuil, the staid furniture and unexceptional paintings, of how the artists would ridicule them.

"It's only failed artists who use cameras, anyway," someone else said. "People who have no talent. If they could paint on their own they wouldn't need a machine to do it for them."

They were wrong, but Stevens knew he could not make them understand. He had nothing in common with them any longer, he realized, and he finished his drink and left the café.

Stevens filmed more of Méliès's magic tricks, and by May they had enough for a moving picture, *Playing Cards*. But they were starting to get bored with the garden, and they took the camera out into the streets, capturing people walking on the pavements, cars and horses driving by, a parade.

One day when Stevens came to visit he found the room already dark, Méliès running the projector. "Look at this," he said. "Do you remember when we were filming at the Opéra a week ago, and the camera jammed? I didn't think to develop it until now, but look what happened."

He ran a strip of film, ordinary enough, an omnibus driving past the Opéra. Then, suddenly, the omnibus turned into a hearse. "This is where it jammed," Méliès said, unable to contain his delight. "Remember? You fiddled with it and got it working again, but by then it was filming something entirely different. It's like a magic trick, isn't it? One thing substituting for another." He laughed, and Stevens laughed with him, carried away once again by the man's excitement.

Summer came, and one day Méliès motioned Stevens in front of the camera again. "I want to try something new, an experiment," Méliès said. "Stand still, just stay there. Don't move."

Stevens stood, wondering what tricks the other man had come up with this time, what illusions he had up his sleeve. But he felt foolish too, standing there in the hot sun of the garden. If Méliès had wanted a stationary picture he should have used an ordinary camera: the whole point of moving pictures was that they moved. "What—" he said.

"Stand still," Méliès said again. "Just a moment longer."

Finally Méliès released him. "What was that about?" Stevens asked.

"I'll tell you later," Méliès said.

He ran the film a few days after that. Stevens watched himself standing motionless in the garden, then turning and speaking to the camera. When the film ended Méliès sat for a moment, then brought up the light and said, "It didn't work."

"What didn't work?"

"Remember when we did that magic, when I found that frog in my pocket? I was concentrating here, trying to imagine you growing wings, or sprouting horns—"

"Magic? You're kidding me. You're a grown man, you can't possibly believe that stuff."



"What about that frog, then? Where did that come from?"

"You had it with you."

"No—"

"There's no such thing as magic," Stevens said. He felt slightly ridiculous, explaining this to a grown man, as if he were telling him that fire was hot, or knives were sharp. "The things we're doing here, with the camera, they're illusions, nothing more. Trick photographs, like the one with the hearse and the omnibus. And that's what we should be working on, not wasting our time with this other stuff."

Méliès said nothing, though Stevens sensed that he was not convinced. But he did not bring up magic again, and in the days that followed they invented new illusions that could be done with the camera. By November they finished their first picture showing a magic trick, *The Conjuring of a Woman in the House of Robert-Houdin*. It was the illusion Méliès had done in the theatre, a woman's head floating through the air without her body.

Their films grew more elaborate. Méliès formed a company to produce them, Star Films, and hired more and more people, carpenters and actors and dressmakers. There was even a team of women coloring some of the films by hand, frame by frame, as Stevens and Méliès began to experiment with color.

The weather was turning cold, though, making it harder to film outdoors. "I've been thinking about a sort of studio," Méliès said. "Something made out of glass, so we could take advantage of the light."

Méliès drew plans and hired workers, and the building began to go up, a fantastic place of glass and wrought iron. But he had no formal training in architecture; the plans changed day by day as more and more problems appeared, and the work dragged on through the winter.

"It's sagging now, they tell me," Méliès said one day. "They'll have to tear down the middle and start again. The thing is bankrupting me—they say it might end up costing ninety thousand francs."

Ninety thousand francs, Stevens thought, remembering the single franc he had given the woman at the theatre. It seemed unreal, one of Méliès's fantasies; he could not imagine having that much money.

He had been thinking of money more and more lately. His own was starting to dwindle, and already he was having to make sacrifices, to choose between a few meals and a winter coat.

Suddenly he resented Méliès, the man's wealth, his mansion. Méliès would never understand true poverty, what it was like to work at something you hated, something forced upon you. For a long time he had managed not to think of his father's fishing boat, but now he realized how close he was to having to go back, and the thought horrified him.

He had resented that artist too, he remembered, the one who had had more talent than he did; it had been a petty, ugly feeling, and he had fought hard against it. And now here it was again, after all this time, and once again he felt helpless before it.

Méliès was looking at him, wondering, perhaps, why he had said nothing. "Is something wrong, my friend?" Méliès asked.

"I—my money's almost gone. I'm going to have to go home, go back to fishing."

"But that's terrible. Isn't there something you can do?"

"What? I'm a mediocre painter, and I can work a camera, and that's all." An idea came to him, suddenly, and he felt an unexpected hope. "What about—well, you can hire me. Pay me for what I'm already doing for free."

Méliès sighed. "I wish I could," he said. "But I meant it when I said the studio was bankrupting me. I can't —"

His resentment rose up again, overwhelmed him. "You pay all your other employees."

"Is that how you think of yourself, as an employee? I didn't think —"

"Of course you didn't think! You'd have to pay me if you did, and this way you get me to work for free. You make money renting out these films—do you think I didn't know that? And I don't see any of it, not a franc, while you build this—this monstrosity in your backyard."

"But I barely make anything, truly. You know that—you've seen how hard I work, how many films I have to make just to break even."

Stevens said nothing. Méliès could come up with the money somehow, he thought, sell his silverware or china or those awful paintings.

"There has to be a way," Méliès said. "Maybe the magic, we could work some magic together—"

"Magic! What are you, a child? Don't tell me you still believe that mar-larkey."

"All right, all right," Méliès said. "Well, then, what about this? Remember that film we saw the other day, the one by Thomas Edison? He has a studio in New Jersey, the projectionist said. You could go work for him."

The projectionist had been from the United States, in Paris to show films from Edison's company. He had been delighted to meet other filmmakers, so enthusiastic he had not seemed to realize how many of Edison's secrets he was giving away.

"No, I can't," Stevens said. "Edison's a suspicious guy, the man said. He only hires people he knows."

"What if I give you a reference?"

Stevens laughed bitterly. "A reference? What good would that do? The projectionist didn't even know who you are—what makes you think Edison would?"

"I don't know," Méliès said, looking discouraged. "We'll think of something, don't worry." He brightened. "Here—let me show you something. A new trick."

So he hadn't understood, Stevens thought. He never would, probably. Here he was, showing off his rich man's toys, as if that was enough to make Stevens forget his problems.

They went inside the half-finished studio. "Look at this," Méliès said. He picked up a sheet of glass and propped it up on one side.

An irregular portion at the top of the glass had been painted black. "See, you film *through* the glass," Méliès said. "And then you paint a background on canvas, the same size as the black part, here, and you film that, you make a double exposure. You don't have to build all those sets and carry them around anymore—you can just paint what you need, anything you like. It makes shooting outside much easier—and you can show some of the scenery, trees and grass and rivers, and then add the rest later, a ship, a palace. You can add ten stories to a building just by painting it."

Stevens looked at the black paint at the top. A negative space, empty, and at the same time filled with possibility. He felt himself drawn inside it, and Méliès's words echoed within him: "Anything you like." He could take this technique to Edison, offer his services. Edison would have to hire him then.

He could say he invented it. Edison would never know the truth, and Méliès would be far away, across the ocean. He deserved a break, finally; he didn't have Méliès's rich father, his rich wife, and through no fault of his own he did not have the talent to be an artist. Really, it wasn't an invention at all, just some paint on a glass; anyone could have thought of it.

Méliès was smiling at him, waiting as always for congratulations. "Well?" he said. "What do you think?"

Stevens roused himself. "This—this is for me," he said.

Edison's studio turned out to be as different from Méliès's as possible, a box of black metal with shuttered windows that could be opened to let in the light. Edison refused to see Stevens at first; then, after Stevens had returned several days in a row, he reluctantly let him inside.

He said nothing when Stevens showed him the glass technique, and Stevens nearly gave up finally, discouraged by his inhospitable manner. Then, after a long silence, Edison said, "Did you come up with this?"

"I did, yes," Stevens said.

"Good," Edison said. "We have to be careful these days—there are all kinds of people taking out patents, claiming to have invented this and that."

Edison gave Stevens his own room in the crowded studio. The work was challenging, different assignments every week, and he enjoyed using the skills he'd learned as an artist. He got a raise after his first year, then a bigger one. Directors asked his advice, and even Edison stopped by to talk to him.

More studios started up, Vitagraph and American Mutascope. One day he met a man from Vitagraph who asked him how Edison could afford to film in all those foreign places. Stevens laughed and hinted at mysterious techniques, and the man hired him immediately, at nearly double his salary.

Vitagraph was very different from what he was used to. Edison had insisted on secrecy, but here everyone shared their knowledge, worked together to solve problems. Stevens's glass technique had given him a reputation as a sort of wizard, and the other employees began to ask him for help. For the most part he was able to come up with solutions, but sometimes their problems were too much for him and he would think, very briefly, that Méliès would know what to do.

But he never wrote Méliès; the man had no place in his new life. He saw catalogs from Star Films every so often, films of flowers becoming women, women becoming stars, and he would remember the glass studio, the pane of glass painted black at the top. Sometimes he would feel bad for Méliès, even guilty, as if he had wronged the man somehow. Then he would tell himself that he had nothing to feel guilty about, and anyway Méliès was doing fine, his studio flourishing; there was no reason to worry about him.

One day a cameraman told him about a film he'd seen called *Voyage to the Moon*. "It's from Star Films, this outfit in Paris," the man said. "I swear, I don't know how the guy did half those tricks. They shoot off this rocket, and it lands on the moon, and these guys get out and walk around..."

"That's crazy," Stevens said. "You can't get to the moon."

"Maybe you can, someday. It's in this book by a French writer, scientific romances they call them."

"So what? That doesn't make it true."

"You should see this film, though."

"I'm too busy with my own pictures," Stevens said.

Stevens put the conversation out of his mind. But a few months later a letter with French postage came for him care of his studio. It had been sent by someone with the unlikely name of E. Smile, and it was only after Stevens opened it and saw the Star Films trademark that he realized the name was an anagram for Méliès.

17 July, 1907

My Dear Stevens,

Word gets around, and I have learned that you are working at Vitagraph Studio these days. I have learned too that you are now a specialist in the glass technique I showed you. I hope you are doing good things with it, that you are carrying on in the tradition of Star Films.

For myself, I have been keeping busy. I'm still working at my crazy, hectic pace, but mostly I enjoy it. Some of my films have been shown in the United States—perhaps you have seen them? *Voyage to the Moon* is especially popular, though I don't know why, I don't think it's one of my best. If you have seen it, though, it was probably a theft, a counterfeit. Unscrupulous men—gangsters, I think you would call them—are starting to copy my films and sell them as their own.

And this is not the worst of my troubles. There are now a great many film studios here in Paris, and the competition is fierce. In particular there are my own *bêtes noires*, the Pathé brothers, who have hired a dreadful man named Ferdinand Zecca to produce their films. Zecca's first order of business, apparently, was to copy everything I ever did. I make a film about life at the bottom of the sea, he follows suit with a film called, with his usual inventiveness, *Drama at the Bottom of the Sea*. I make films about the devil, he makes *The Seven Castles of the Devil*. He has even built a studio in Montreuil, hoping perhaps that some of my thoughts will waft like smoke down the street and into his thick head.

All films are made by brothers these days, it seems, the Pathés, the Lumières. Even I have brought my brother Gaston into my company, and sent him to New York to look after my business in the United States. It was he, I should tell you, who told me where you were working.

And you—I think of you as my brother as well. I've never forgotten the way we met, first at the Lumières' theatre and then again at my show at the Robert-Houdin. It was magic, as I told you then, and so was the work we did together after that.

I hope you are keeping well.

Your brother,

Georges Méliès

Stevens felt a rush of pleasure. Dammit, but he'd missed the man, the fun they'd had, the way every day seemed to bring new excitement, new

discoveries. They'd practically created a new kind of art by themselves, all the more amazing because they hadn't known what they were doing from one day to the next. How had he forgotten that?

He read the letter again. This time, though, he saw things he had missed, and he remembered how annoying the other man could be. That guff about magic, for example—did Méliès still believe all that mumbo jumbo?

And what about the part at the beginning—"the glass technique I showed you"? Was Méliès claiming credit for that now? He was growing forgetful, probably; he had to be about fifty by now.

Stevens thought about the letter on and off, mislaid it, found it again. Finally, a few months later, he sat down to answer it.

October 22, 1907

Brother Méliès,

Thanks for your letter! It was good to hear from you again.

They keep me busy painting these days. I just finished a huge castle, with towers and turrets and God knows what. I'll tell you when the picture comes out—maybe they'll show it in France so you can see it.

I met a terrific girl named Adele, a seamstress who works at the studio. I'm even thinking of marrying her, if you can believe that. Wish me luck!

All best wishes,

Nate Stevens

Letters came from Paris every few months, and Stevens wrote back, but as time passed he felt more and more distant from Méliès. He married Adele and bought a house, and they had two children, a boy and a girl. He had responsibilities now, and Méliès, though he also had a wife, and now two children as well, began to seem frivolous, a child himself. His memories of that time started to fade, and when he thought of them at all he marveled that he had ever been so young.

27 January, 1909

Brother Stevens,

I am having to deal with your old employer Thomas Edison, and I must tell you I am not enjoying the experience. He claims to have registered the first patent for the film camera, and he has forced all the studios who want to distribute their pictures in the United States to join his cartel. Well, of course I agreed—what choice did I have?

The Pathé brothers joined as well. And unfortunately we had to promise to create a certain number of films for the American market, and to sell them for the same price. And here is where they have the advantage of me, because my films cost more to make than theirs, and take longer. This is why, of course, they are superior to the Pathés' own pathetic productions. I am being forced into a ridiculous pace, and I don't know how much longer I can keep up.

But I don't mean to bore you with my troubles. Please write and tell me how you are doing.

Your exhausted brother,

Georges Méliès

July 21, 1911

Dear Méliès,

Vitagraph didn't give me that raise I wanted, so I'm thinking of going somewhere else. I'm in a good position, too—I know all kinds of tricks the other studios don't. Someone even asked me how we can afford to shoot in all those exotic locations, out West and in the South Pacific and at the pyramids in Egypt.

In fact, by the time you get this I might be in California. All the companies are moving out there, to a town called Hollywood, because the weather's so good.

13 August, 1911

Brother,

I try to picture you in Hollywood, although, as I know nothing at all about the place, I can only imagine it. I see you eating dates you have picked from your own date palm, which may be true, and riding in to work on a camel, which is probably not. One thing I am certain about is that you are still using that glass technique I showed you, painting out a drab studio here, painting in a richly decorated ballroom there. Anyway, I hope this letter reaches you, wherever you are.

I am not doing as well as you, unfortunately. The Pathés and that odious man Zecca are still causing me endless grief. I had no money for my latest film and was forced to go to them, hat in hand, and ask for their help with financing and distribution. They agreed, but only if I gave them my property and studio as a guarantee.

A few weeks ago I went to their studio, my heart trembling, to show them the new film, *The Hallucinations of Baron Münchhausen*. I truly believe this is my best one yet, filled with wonders, spider women and devils and dragons. It ran thirteen minutes, and I could feel every one of them, hear the racket from the film projector, even hear Zecca breathing.

And then it ended. Zecca put his head in his hands and was silent a moment, then surfaced with the pronouncement that it had to be longer. I told him he was wrong, that it was the perfect length, that it said everything it had to say.

He wasn't finished, though. The problem went deeper, he said. No one wants to see fantasy anymore. We live in an age of science, of radios and gramophones and aeroplanes. Only children still believe in giants and monsters.

I disagreed, of course. I did not tell him what I think about magic, though—even you never believed that. But I said that we needed fantasy, that science could never explain all the strange turns that life takes. That fantasy exists not in opposition to science but alongside it, each of them illuminating the other. He said that he was not there to discuss philosophy, that I was simply wrong, and the proof was that the Pathés were making money and I was not. The more I tried to explain, the less he seemed to understand. Finally I was reduced to shouting, and I told him that he ignored dreams at his own peril.

He was silent again, this time for much longer, and I realized that I had behaved very stupidly, that I had probably lost any hope I had of getting



my film distributed. Then he said, sounding very reasonable, the great man of science, that Pathé studios would lose money if they abandoned the film now, that they would take it on and try to distribute it. All I had to do was add a few scenes.

I don't think he cared about the length, not really. He just wanted to insult me, to show me he's in charge. He's always been envious of me, always copying me, and now he has me in his power and he's enjoying it.

Stevens read the letter, frowning. He didn't remember Méliès being so critical, so quick to blame his misfortunes on others. Méliès had been wrong, that was all there was to it, and Zecca had been right. Fantasy had gone out of style. People had been amused by camera tricks for a while, but now they wanted the pictures to be like life, only grander, more exciting. Millionaires really did throw lavish parties, and bandits really did rob trains, but no one had discovered a mermaid yet.

He moved to California a few months later, and in the confusion of packing, of taking the train across the country with his family, he lost the letter. When he thought of it again, driving to work past the orange fields of Los Angeles, he remembered only Méliès's bitterness, and he thought of how out of place it was in the bright sun of California.

But a letter from Méliès caught up with him five years later, at Universal Studios.

14 September, 1916

Dear Monsieur Stevens,

I have had a very bad time of it, these last few years. My wife Eugénie died in 1913, and my brother Gaston in 1915. I can no longer afford to produce my films, and for a while, to make ends meet, I performed my old magic shows at the Robert-Houdin. Then this terrible war started, and in addition to the tragedies all around me I was forced to close the theatre for a while. When I reopened it I discovered that few people these days go out in the evenings—and when they do, of course, they would rather see films. Some nights there were only four or five people in the audience, and in the end I had to give up performing and rent out the theatre.

Now I am desperately trying to support my grown children and their families, and I have been racking my brains for ideas. None of the studios here will hire me, not after the failure of my last few films to make money, and not after Ferdinand Zecca's attempts to turn them all against me. I don't know if I told you, but he claimed the rights to the last film I made, *Cinderella*, and then tried to kill it, using those butcher's knives of his to cut it from fifty-four to thirty-three minutes. I am sure he was afraid I would replace him at Pathé and was trying to discredit me, make me look like an idiot who has no business behind a camera.

I admit I despaired for a while. I thought a good deal of that first trick we ever did with the camera, the omnibus turning into a hearse, and I began to see it as an allegory. Everything turns to death in the end. Death is a greater magician than any of us.



Finally I thought of you, my friend, and it occurred to me that I might find a place at a studio in the United States. I remembered those wonderful days when we worked together, the discoveries we made. And I remembered too that glass technique I invented.

I never said a word to you when I found out you had taken this idea to the studios, not even when I heard you were claiming it for yourself. And I would not say anything now, but I am in desperate straits and need to ask a favor—if not for the sake of our friendship, which I think you have forgotten, then because you owe it to me. You've written often enough about your wealth, your success, your wonderful family, but none of that would have been possible without the black glass. I'm not even asking for money, just a simple thing, something you can do easily. Just a word from you to the right person. After all I've done for you, I deserve this much, at least.

I hope this letter finds you well.

Your brother in art,

Georges Méliès

Stevens nearly threw away the letter in disgust. It wasn't the man's complaining that disturbed him, the whining tone, but the fact that Méliès seemed to blame everyone but himself. Of course Zecca had not turned the studios against Méliès—why would he bother, after all, when he was a big shot and Méliès a nobody? The man saw conspiracies everywhere—even Stevens, who had once been such a close friend, had become an enemy.

Stevens felt sorry for Méliès, of course he did. It was too bad the man had lost his wife and his brother in the space of only two years. He might have even tried to help, if not for all that self-pity.

The self-pity and the lying, those wild claims at the end. It was practically blackmail, and after all that talk about friendship. The friendship extended only as far as Stevens could help him, apparently. Then it was time to put the screws on.

But it was only blackmail if the other party had something to hide, and Stevens was certain he had done nothing wrong. He had come up with the idea fair and square. He ran the scene like a film in his mind, seeing the studio, the glass panes left lying around by the builders—but how had he thought of it? Had he picked up a brush and dipped it in black paint? Or had he simply seen the possibilities, how the trick could be done? There was Méliès, there was himself, but try as he might he could not remember the exact moment of invention.

Well, it was up to Méliès to prove his allegations. And Méliès had never written anything down; he was a terrible businessman, it was one of the reasons he had never succeeded in anything.

Stevens shook his head. Of course he had invented the technique. Méliès had gone senile, that was all, or been driven mad by his troubles. Stevens crumpled the letter and threw it in the trash.

Ten years later Stevens got a divorce from Adele. She had begun to complain about his behavior: he had changed, she'd said; he had once

been light-hearted, fun to be with, but lately he seemed more and more unhappy, even secretive. It was almost as if something weighed on him, something he had done long ago that was bothering him more and more as time passed. He had laughed and asked her what it was he was supposed to have done, if she thought he had a mistress hidden away somewhere, but she had just shaken her head and said that he had changed, that was all, she couldn't explain it.

His children were grown and he felt at loose ends, and he decided to go to Paris on vacation. He remembered how happy he had been there, and while he wasn't naïve enough to think he could recapture his youth he felt the city would make a pleasant change. At the very least, he thought, it would not remind him of his wife.

At the back of his mind he had expected Paris to be the same, but of course it had changed a great deal in thirty years. He saw it first in the train station, which had grown to something monstrous, unfamiliar passages branching off in all directions. And when he stepped outside, too, everything was faster and louder, more automobiles, more people.

He visited the old cafés, but of course his artist friends weren't there any longer. New styles had come along since he had tried his hand at painting, cubism and dada and surrealism. His friends had been overtaken, made obsolete, just like so much else.

One day he found himself walking in a neighborhood that seemed familiar, though he could swear he had never seen any of the buildings before. Suddenly he realized that he had to be near the Théâtre Robert-Houdin. He went looking for it, but the entire street was missing, razed to make way for a larger boulevard.

After three weeks he packed his bags and took the Métro to the train station. He thought without pleasure of the life he would be returning to, his work at the studio, his nights alone in his apartment. Paris had been a change of scenery, but nothing else had changed.

At the station people hurried along the platforms, called out to porters, met their friends. Trains clattered in and braked to a stop, whistling loudly, their smoke blowing out behind them. He looked for his train but got turned around somehow, lost in the maze the station had become, and the more he walked, it seemed, the farther from the trains and platforms he found himself.

Finally he came to a nearly deserted hallway, a great echoing space with rows of stalls stretching away on either side. The sounds here were muted; even the people moved more slowly. He continued on, passing stalls selling hats and postcards and umbrellas, shabby places with few customers.

He glanced at an old man behind a counter piled high with toys and sweets, looked away, looked back. The man seemed infinitely sad somehow, and Stevens wondered what had brought him to this place, why he wasn't sitting by a fire somewhere, telling stories to his grandchildren.

But the man seemed familiar too. That neat goatee, that mustache . . . As he watched a young girl walked up to the stand, drawn by the puppets and tops and wooden animals. The man smiled, a doting uncle looking at his niece, and Stevens realized that it was Méliès.

No, it couldn't be. Méliès was behind a camera somewhere, making one of his improbable films. Or designing a costume, or waving a wand over a deck of cards. He couldn't have come to this, a dingy counter in a dingy hallway.

Stevens slipped behind a pillar. The girl picked up one of the carved birds and examined it doubtfully. Suddenly the bird flew out of her hand and soared above the row of stalls, making for the ceiling high overhead. She laughed and threw back her head to follow it, watching as it dipped and rose between the rafters.

Méliès watched it too. He looked surprised, as if the bird had done something unexpected. He glanced up and down the hallway, and for a moment his gaze seemed to stop at Stevens's pillar. Then he looked up again, following the bird's flight, and Stevens let out a breath.

The bird came back, settled on the counter, changed back into a wooden toy. The girl laughed again and picked it up and studied it, more closely this time.

How the hell had the old man done that? Méliès had shown him some of his secrets, the mirrors and ropes and trapdoors, but there were no ropes here, and no sign of a mirror. And he would have needed a live bird somewhere, in his pocket or behind the counter. God knows Méliès was eccentric, more so than most men, but would he have kept a bird on the off-chance that someone would come along and pick up just that one toy?

Méliès looked up then, this time directly at him, and Stevens realized he had stepped out from behind the pillar to look at the bird. "Stevens!" the old man called. "It is you, isn't it?"

His first thought was to run away. "Come over here, you devil!" Méliès said. "What are you doing in Paris?"

Stevens went toward the stall. The girl's mother called her and she looked at the toys one final time, regretfully, and then walked away.

"You look good, my friend," Méliès said. "Are you living here now?"

Stevens couldn't say the same about Méliès. The years had marked him; Stevens had been right about the sadness, and Méliès looked tired, too, and even a little lost. He had to be about sixty-five, far too old to be standing in a drafty hall and selling toys.

"I—I was on vacation," Stevens said. "I'm heading home."

"Ah. And where is home, now? Are you still working for those studios?"

"That's right."

A toy on the counter moved toward him, a crocodile. Its mouth opened, showing rows of fine pointed teeth, and then closed. Stevens ignored it and looked impatiently at Méliès, wondering if the old man would ever grow up, ever get tired of those illusions of his. "How'd you manage that trick, the one with the bird?"

"I showed you some tricks before, I think," Méliès smiled, not the kind smile he remembered but something harsher, even cynical. "One in particular, that you stole from me."

"What are you talking about? I never stole anything from you, never."

"No?" The smile was definitely unpleasant now, and Méliès's eyes flashed briefly with what looked like hatred. "What about that glass technique?"

"You're crazy. That was mine—I invented it."

"Did you?" A top began to spin, then slowed and fell back to the counter.

"Of course I did. You forgot, that's all."

"I'm a senile old man now, is that it?"

"You said it, not me. And I didn't appreciate you blackmailing me, in that letter. I might even have helped you, if you hadn't—"

"So you did get that letter."

For a moment Stevens felt embarrassed. But what did he have to be embarrassed about, after all? A puppet hanging behind the counter twisted in its strings, rattling like a skeleton, and then went still. "Yeah, I did. And I would have helped you, like I said, but then you had to threaten me. I—"

"It was the truth. Did that threaten you?"

"It wasn't the truth, can't you get that through your thick skull?" Some of the other stall-keepers were looking at him now, and he lowered his voice. There had to be some way to make this man see reason. "Look, you didn't use to be like this. You got bitter over the years. Okay, that's understandable, with everything you went through. But you have to put that behind you, remember all the good times. All those films you got to make. You know what I think, about the work I did? That it'll still be there, a long time after I'm dead. People will still go to the pictures, and they'll see it. We're immortal, people like us."

"My films are gone, though."

"What?"

"They're gone, most of them. They took my negatives during the war, and they made boot-heels out of them. I think about that sometimes. All those people, all over Paris, walking on stars and skulls and feathers . . ."

Stevens glanced down the hallway, looking for a clock. He had to get away; it was like he'd thought, the old man had gone senile.

"How did I do that trick with the bird?" Méliès said abruptly. "It was magic."

"That's ridiculous."

"Is it?"

"Of course it is. Magic doesn't exist."

"A lot of things don't exist, according to you. Friendship, for one."

"All right, that's it. I don't have to stand here and take this."

"One minute longer, and I'll let you go." Stevens looked down the hallway again, looked back. "I learned a few things about magic over the years, though I still can't create it on my own. The two of us, though—do you remember what I said about our bond, about how we can work magic together? I know how to do it now. And I don't need your consent any longer, just your presence. Here—I'll show you."

Everything disappeared, turned black: the stall, the corridor, the train station. "It wasn't the theft," Méliès's voice said in the darkness. "I would have given you the glass technique if you'd asked, given it gladly. It was what you did afterward."

Something appeared in the blackness, slowly, as if it were being painted. Then Stevens was inside it somehow, and he looked around, his heart pounding.

It was a house, with walls and windows and scattered furniture. He ran

to the door, twisted the knob, pushed against it, but it didn't move. He beat on it with his fists, shouted something, he wasn't even sure what.

He stepped back and took a breath. This was another of the old man's illusions, nothing more. He'd rigged something up, some kind of background like the ones in his films.

He went to the window and looked out. A meadow stretched before him, some cows, a windmill and a river in the distance. He tugged on the window but it seemed locked, like the door. He picked up a chair and threw it.

The glass broke. He gripped the sill and pulled himself up, then tumbled outside. Pain lanced his hand, and he saw that he had cut it badly on the shards of glass. A drop of blood fell to the floor.

He looked up quickly. He was back in the house, the same walls around him, the same tables and chairs. The window was still broken, though, and he climbed through it again, more carefully this time.

And found himself back inside the house. "All right!" he said, shouting. "Enough is enough! What do you want from me?"

Everything turned black again. Then a new scene took shape around him, slowly, the unseen painter filling out another canvas.

A room formed out of the dark, a different one this time. It was shaped like an egg, the floor and walls curved. A door stood in front of him; he made his way toward it carefully, but as he suspected it was locked.

He glanced up and saw two windows high above him, too far to reach. A telescope looked out of each of them. And above that there was nothing, black paint, a blank space waiting to be filled.

It was a head, he realized. The windows were eyes, the door a mouth. A ladder materialized against the wall. He began to climb.

He reached one of the telescopes and looked through it. Stars and planets swam past him, then a woman perched on a crescent moon, combing her hair. An omnibus came by, and changed into a hearse. A locomotive roared through the blackness, skeletons sitting and grinning at every window. A sun moved toward him, growing until it filled the circle of the eyepiece.

The sun came closer still. He could see a city on its surface now, a street, a house. A window, and another skeleton looking out.

It was moving too fast, they would collide at any minute. He cried out, jerked away from the telescope. He ran farther up the ladder, not thinking now, wanting only to get away. He reached the black space and went through.

There was nothing inside it, nothing at all. He waited for the artist to begin painting again, but the darkness remained. He felt out toward the ladder, but it was gone.

"Stop it!" he shouted. "Stop it! What do you want from me? I'll do it, whatever it is. Anything. Just let me go!"

The blackness pressed in around him. He flailed outward, trying to touch something, anything. "What do you want from me?" he said again.

He shouted some more. He screamed without words, hoping to hear an echo. Nothing came.

He began to wonder, finally, how he was able to stand. He sat and reached out around him and felt some kind of floor, smooth and even. He

beat against it with his fists, but it made no noise. It's made out of darkness, he thought. Everything here is made out of darkness.

He stood and walked forward carefully, his hands out. He came to the curved wall and felt along it; it was as smooth as the floor. He hit it a few times, angrily, but nothing happened.

He sat against the wall and stared into darkness. He stood and shouted for a while, at Méliès, the unknown painter, the darkness. He sat back down, drew his legs up, clasped his hands around his knees. He rocked slowly back and forth. He stood up and screamed again.

He passed a long time like this, how much he never knew. And finally he understood something, he knew where he was. He was in his own head.

And he was nothing, no one. Not a husband, not a father. Not a good man. He had done something, stolen something . . .

The blackness lightened, and Méliès appeared before him. Méliès stood in his half-finished studio; light shone on him through the glass, and he was holding a pane of glass too, with a section blacked out at the top. He pointed to the glass and said something, silently, as if he were in one of his moving pictures.

Stevens flushed, remembering that day. All right, perhaps he had stolen the idea. But really, what difference did it make? Méliès would have given it to him anyway, he had even said so.

It wasn't the theft, though. It was afterward, when the guilt of what he had done had begun to worm its way through his gut. He'd tried to forget, tried to put as much distance as he could between them. Tried to despise the man, because otherwise he would have despised himself.

And so he had turned away when Méliès had asked for help. He had denied their bond, had taken the pure gold of Méliès's generosity and never repaid it.

He stood up and spoke into the empty space around him. "I don't know what you want," he said. "I don't know what I can do, after all this time. I think you want me to say that I'm sorry. And I am. I am sorry."

Nothing happened. He was still inside his head. I'm not a good man, he thought again. And I don't think I can bear my own company for very much longer.

The darkness began to lift. He heard other sounds finally, after what seemed like a lifetime of his own screaming. Footsteps, voices. The whistle of a train, and the screech of brakes.

He was back in the train station, near the platforms. He twisted his head back and forth, panicked, expecting at any moment to see a part of the station disappear into blackness.

He had to move, to hurry, had to break out of the fear that held him. Méliès might not have meant to let him go, might return at any moment. Someone came toward him out of the crowd, a smiling old man with a mustache and goatee. He ran.

There was his platform, up ahead. He ran faster. A train passed him, screaming as it braked. He glanced up. Skeletons looked out from every window, their eyes empty.

He stumbled, cried out. When he looked again the skeletons were gone,



replaced by living men and women. He must have imagined it; he'd been confused by the harsh light of the station.

The train stopped. The doors opened, and he hurried up the stairs. He'd lost his luggage, he saw. He didn't much care.

He went back to Hollywood, and to his paintings. He worked hard, trying to keep busy, trying not to think about what had happened in Paris. Sometimes, though, despite his best efforts, he would falter, and then darkness would rise up around him, and his mind would create impossible things, castles and devils breathing fire. Once he saw a hearse drive past and he stood pinned to the street, unable to move for terror.

Sometimes, even worse, he would see nothing but the darkness, and his old despair would return, the feeling that he was nothing, was empty. That he had acted badly, had wronged an old friend.

The moments were brief, no more than a second or two. When he came back to his real life he would wonder how long his mind would play tricks on him this way, when he would finally be able to put his experience in the train station behind him.

But the black moments also reminded him of what he had discovered about himself, and he tried to be as generous as Méliès once was. He encouraged the younger artists at the studio, showing them things he had learned over the years: tricks of perspective, how to paint clouds. He took an interest in his children; he even tried to be patient with Adele.

Yet he never wrote to Méliès, though he thought about the other man a great deal. At first he could not decide what to say, where to start. Then he realized that it was his shame that held him back, and by then it was too late, too much time had passed.

He did some research, and talked to a few people, and finally he sent a letter to the *Ciné-Journal* in Paris. He wrote that he had seen Georges Méliès working in a train station, that that was a shameful way to treat a pioneer of film, that something should be done.

A while later someone from the journal sent him an article. It was by a journalist named Léon Druhot; it said that Druhot had "discovered" Méliès, that a gala was being planned in Méliès's honor, that a cache of films had been found. Someone had even offered the old man an apartment; Stevens contributed money to it, anonymously.

He was sixty when he retired. He moved to Arizona, met a widow, married her. He began to feel content with his life, and the darkness came less and less often.

The sunsets in Arizona were amazing, gold and saffron and purple, like nothing he had ever seen. They looked like a backdrop, as if a portion of the sky had been blacked out and a painting of spectacular colors filmed in its place. He enjoyed looking at them, most of the time.

Sometimes, though, he wondered about the unseen artist behind them, the magician who had created the illusion. He remembered the skeletons on the train, and the other things he'd seen since then, the pictures he'd put down to his imagination. And horror would sweep over him, and he would wonder if all his life since his last meeting with Méliès had been one long illusion, if he had ever truly left the train station. ○



## THE ANGEL WHO WRITES

The angel who writes you down  
In the Book of Life  
Has to be really good  
At spelling  
And calligraphy  
In every alphabet.

An angel's feather  
Sharpened not too sharp  
And not too square  
Writes thick or thin  
As the downstroke  
Or the sidestroke  
Of a character demands.

Angel ink glows  
Brighter than felt-tips  
Colors ranged  
Like a rainbow after storm  
Or sundogs on the winter sky.

The angel illuminates  
Your capitals.

Good year or bad  
The angel writes you down  
Attentive to your lot  
Nothing it with care  
And elegance.

Before the alphabet  
The angel  
Did hieroglyphs on scrolls  
And before that hands  
Shadowed on the cavewalls of the sky.

—Ruth Berman



Chris Butler was born in Nottingham, UK, in 1964 and now lives in the city of Brighton & Hove. His short fiction has appeared in *Interzone*, *GUD*, and *Albedo One*, and his first novel, *Any Time Now*, was published by Wildside Press. Chris is currently working on his second novel. His latest news can be found at [www.chris-butler.co.uk](http://www.chris-butler.co.uk). In his first story for *Asimov's*, Chris takes a bizarre look at the mysterious voyage that leads up to . . .

# THE TURN

Chris Butler

Quill could see nothing through the fog. He stood at the prow of The Raft, buffeted by the wind, trying to block out the dreg chatter. Precious water trickled down through the netting of The Fin, farmed from the mist, but still he wished for the clear skies of the morning. Or rather, he wished Oat would return.

He heard the familiar fizz of a canister launch from the port side, and turned his head to follow it. The wind hissed off the rim of his hat, while in the distance he heard the canister strike the ground and cast its contents into the surrounding dirt, just short of the jungle.

The Raft moved on, its base flying above the dust. Quill returned his attention forward and heard the slow, tired beat of wings. *At last*. The scout appeared out of the white. When he touched down on the deck he stumbled a step. An extra beat of his wings brought him back to his feet. He leaned forward and heaved air into his lungs.

"Oat," Quill said, "you were gone so long. Was it the strong winds delayed you?"

The women gathered round. Sower threw a blanket over the scout's wings and shoulders. "Quill!" she said. "Let the little grub catch his breath."

But the scout clutched at Quill's tunic and stopped him from backing away. "No, archer. Not the wind, nor the mist." Oat's eyes went wide as he spoke. "I saw The Turn!"

The archer stooped down and grabbed the scout by the arms, steadying him. "Turn? Are you certain?"

More dregs came forward, talking excitedly. The scout nodded. "I flew a long way out, just to be sure."

"How far?" someone called out.

"Less than two days at Raft speed," he said.

Other questions were called. "What was it like?" and "Did you see the Chorus?" But the boy's head lolled forward, and he seemed too tired to say any more.

"He's exhausted," Sower said, "let him rest." The archer nodded and they led the boy over to the water trough at the base of The Fin. He watched them fill a cup and press it into the boy's hand. On this occasion, Quill didn't mind; in a few hours they had farmed enough water to last them all for several days.

He went back to the prow, where The Raft rumbled beneath his feet and spat hot oil into the wind. If he had wings of his own he would fly out to see for himself. When they were a little closer he would send more scouts. Quill took the hat from his head and held it against his chest. His hands felt big and clammy. His bow lay heavy across his broad shoulders.

Soon, then, would come the moment every archer trained for, but few ever knew. He tried to imagine the mist cleared and The Turn come into view, but in his mind's eye he could only see the same horizon as always. For generations it had been the same: the mass of the jungle to port, endless dust to starboard, and he had not thought there would be any change in his lifetime.

Night fell as the mist cleared, leaving no time for hunting. Quill took no more than a glance at the stars, then went below deck and made his way through the crowded corridor to his bed. He pulled his hat down over his eyes and tried to settle down in his blanket, but there was too much noise, too much excitement buzzing around him, and he barely slept that night. He *feared* The Turn. He hated to admit it, for he had always thrown scorn on those who feared to go above deck, or those who were afraid to fly; but there it was, twisting in his gut.

In the morning he stretched to work out the knots in his limbs, then set off in the direction of the Engine Room. People hushed as he went by. A child dreg watched him in fascination while he waited for the lift. Quill did not care for the attention. A day earlier he would have been treated no differently than any of them.

At last he heard the lift ascending and then the doors opened with a loud squeal. "You should oil your pulleys," Quill said to the lift attendant.

Mons locked the vertical ropes, leaned a little to one side, and his gaze tracked along the line of the thinner ropes operating the doors. "You have a point," he said. "Are you coming in or just standing there?"

Quill frowned and stepped inside.

Mons worked the ropes with his massive arms and the lift descended down to the level of the Engine Room. "I hope you won't forget us little people," the brute said, and the lift rattled against the walls of the shaft as he laughed.

Quill smiled and shook his head slightly as he stepped out. And smiled again as the stink of sweat assaulted him on entering the Engine Room.

"Heave," the crew called as they hauled on the chains with practiced

precision. They leaned forward, pulled back, and the cry rang out with every eighth beat of the nome.

"Well, well. Quill Archer," Fraz said. The steward's bright blue eyes glinted, as if playing deliberately with the void-light. "To what do we owe this honor?"

"I just wanted to see a friendly face," Quill said. He went forward, almost up to the void from which the two heavy chains emerged. They were only visible inside the Engine Room, no sign of them outside The Raft, though logically they should stretch away fore and aft. He held his hand up and let the links brush against his fingers as the crew heaved. Quill's gaze followed the chain back to the aft void. "The links are sound?"

"Never seen a bad one," Fraz said.

"Keep an eye on them anyway."

"It's definite, then? We really are coming to The Turn?"

"Oat says it is just as the records claim: a wall barring the way, bigger than you can imagine and stretching from horizon to horizon."

"Any sign of the Chorus?"

"Not yet."

Fraz shook his head. "Didn't think I'd live to see it. Tomorrow morning, I'm told."

"Yes. Tomorrow we will be there." Quill put his hand on Fraz's shoulder. "Pick your finest team. We shall need all the speed they can muster."

Fraz sniffed and nodded.

Quill stood at the port rail, the light fading, his gaze fixed on the edge of the jungle. Sometimes there was good hunting in the last moments of the day, when the nocturnals first appeared, not yet fully awake. As if on cue, a Mool hopped out onto the dust and paused. Quill let fly an arrow and pierced it through the chest.

A scout flew out and collected the last catch of the day. Quill stared into the dark knots of the trees, then up into the restless shimmer of the canopy. He turned away, went to the starboard side and watched the sun setting.

A slim dreg girl came and sat down beside him. Elin had been born to a large litter, he remembered. There were so many of them now; too many mouths to feed, really, but what could be done? "That's lovely," she said, staring out into the distance. "Just look at that amber glow on the dust. It's just beautiful, isn't it?"

Quill said, "Can you imagine seeing it on the port side?"

The dreg slapped the deck with her tail excitedly. "Oh, just think of it. I can't wait to see it. How about you?"

Quill sat down beside her, landing a little heavily. "Sorry," he said.

"No problem, Quill Archer," she said. "Practically an honor." She brushed her whiskers with her small hands. "You can knock me over any time."

Quill decided to ignore this, and persisted with his melancholy. "I cannot imagine seeing the sunset on the port side. But I will see it. It is my duty, and I will not fail those who have put their trust in me."

The girl looked at him and smiled. "I wish I could see that part. When you fire the arrow. Oh, I wish I could see that part."

Quill nodded. There was only so much space above deck; not many would see the moment when he let fly the most important arrow of all.

"Have you heard that Oat is ill?" the girl said, her mood changed.

Quill had not heard of it. He said good night to the girl and went immediately to investigate.

He was shocked to see loose feathers scattered on the bed, and the boy's wings were withered and edged with brown, like a plant that tried to grow in the dust. Oat's mother fussed over him. And Sower was there, and others too.

"How did this happen?" Quill asked. No answer came, just helpless looks. Quill went closer and sat down beside the boy. "Did anything happen when you flew out to The Turn?" he asked.

The boy shook his head. Even that small effort seemed to tire him.

"Did you fly up high, to see past the wall?"

"No," he said. "It's forbid . . ."

Quill held up his hand to assure the boy he was not being accused of anything. It just seemed too much of a coincidence that he should grow sick now. Sickness was such a rare thing. "Did you land, perhaps? To rest?"

Now the boy hesitated in answering. "It was a long flight," he said at last. "I did rest a moment at the base of The Wall."

Quill nodded. "That's all right, Oat, get some rest now. In the morning I will see us round The Turn, and then I will be here to tell you how it was. Straight after, I promise."

Oat said, "I wanted to see the Chorus, but there was no sign of them."

Quill pressed the palm of his hand to the boy's head, which was slick with sweat. "If they are immortals, as the legends claim, then I am sure they will show themselves."

"Are they better than us, Quill?"

"All living things are equal, Oat. Now rest."

Oat nodded and closed his eyes.

*Equally powerless*, Quill thought, but he kept it to himself. Realizing the women watched him closely, he forced a smile till he could retreat back above deck. He would spread word that no one should leave The Raft till The Turn was completed. Best if they all stayed onboard and they raced away from this place as fast as they could.

A black horizontal line was just discernible ahead, still far in the distance, impossible to make out any detail yet. The Turn was supposed to be a joyous occasion, and perhaps when, if, the Chorus showed themselves, then it would indeed be so. But still, he felt a growing sense of unease.

He slept no better that second night. Voices were hushed. The mood had changed.

The Wall was a massive obstacle before them, made of uneven stone boulders set in a black mortar. The Raft progressed towards it, carrying Quill and everything he knew and loved. At the moment of truth, he felt clumsy and unprepared.

He had allowed some of the scouts into the air, but with instructions not to land anywhere except back on The Raft. The Turning Post had been sighted, just as foretold, a thick column of silver rising as tall as The Wall, with a single hole several feet across cut through at the height of The Raft's upper deck.

There was no sign of the Chorus.

Quill waited. He had personally inspected every inch of the rope tied to the arrow; it was sound, but he did not see how it could support the entire weight of The Raft. Yet, the history books told that all would be well.

In the Engine Room they had increased their rate of pull, heaving on the Chorus Chains every four beats of the nome. Now Quill gave the order to double their speed again. The Turning Post came closer. The Wall came closer. Quill could see the shadowed hole within the silver column. He would not be able to see clear through till The Raft came right alongside it.

He waited for The Raft to lurch, as it surely must in that terrible moment when the Chorus Chains ran out. When the men in the Engine Room pulled the last link in from the void. The momentum they had built up would carry The Raft onwards, and the last links would snake back through the aft void.

*There.* The Raft lurched violently, as if struck by a powerful blow. Quill stood firm on the deck. He drew back the arrow and took aim. He had one chance at this, to fulfill his duty: to everyone on The Raft, now and for generations past, to his father and his father's father.

In the periphery of his vision he saw flashes of amber. He knew what this might be, but he did not allow himself to be distracted. He let fly the arrow. It sailed out, carrying the rope with it. It flew through the hole in the Turning Post, which immediately closed up as if grabbing hold of the rope.

"Secure the line," Quill called out, but the dregs were already in motion. They hauled the rope onto the drum of the capstan and wound it quickly, before it could be snatched out of their hands.

Something was happening to the rope, starting at the far end. It seemed to be growing thicker, as if silver snakes were climbing along it, from the Turning Post back to The Raft. Within moments the full length of the rope had been transformed into chain. The Raft's momentum carried it forward, taking up the slack in this tether.

"Come away from the edge," Quill yelled. Everyone retreated back. Some lost their footing when the chain snapped taut, but no one went overboard. The Raft shook, creaking and discharging smoke into the wind.

Quill now had time to look away from the rope that had become chain, away from the Turning Post, to inspect the flashes of amber he had seen moments before. Golden figures hung suspended in the air all around. The Chorus. They looked like men, like archers, with no scout wings, no dreg tail.

The Raft charged around the Turning Post, tethered by the chain, decelerating but having enough momentum to carry it round.

Then the Chorus all began to sing. Their harmony and splendor filled

the air, like nothing he had ever heard, and they shone with a golden glow; cumulatively they were brighter than the sun. Quill watched and heard, spellbound for a time. He recovered his wits just as The Raft completed its turn, facing away from The Wall now.

"Release the tether, quickly!" he called out, but the others were too stunned to react. He ran over and released the lock on the capstan, and the chain's own weight dragged it down over the side rail. The heavy links fell into the dust below, but the sound of it could not be heard over the song of the Chorus.

Some of them now came toward The Raft, while others stayed motionless. Those that came closer went inside, passing through the walls as if they did not exist.

The Raft continued to slow. One of the Chorus came to rest facing Quill, directly in front of him. It smiled briefly, and then all of them disappeared in the blink of an eye.

The crew of The Raft stood numbly, unsure how to react.

Quill was the first to recover. He left at once, headed for the Engine Room.

As he raced through the corridors, he registered that something had changed. His passage was too easy, the corridors clearer than they had been in years.

When he reached the Engine Room he was relieved to find everything in order. The men were resting after their efforts, and a new chain hung between the fore and aft voids.

"How?" he managed to say to Fraz, the steward.

"The Chorus," Fraz said. "They flew in through the fore void carrying the new chain, and disappeared aft."

Quill nodded and put his hand on Fraz's shoulder. "Bring in a new crew and set them to work. I want to be away from here as quickly as possible."

Fraz nodded. "I'll see to it," he said.

Quill had turned to go but paused and looked back. He called out, "Well done, all of you." Then he hurried away.

His feeling of unease deepened. The corridors were always full. Always. And yet he only saw a third of the people he would normally see. There was nowhere for them to have gone to, no room anywhere.

He grabbed the nearest person and said, "Where is everyone?"

"Gone," the man said. "Just gone."

Quill headed off to see Oat. He had promised the boy he would check up on him as soon as The Turn was completed. But when he came into the room where the boy was being cared for, he found only one dreg woman present. It was Sower, friend of the boy's mother, who had been so protective of him.

"Where is he?" Quill said.

"It was the Chorus. They stood over him. Then one of them touched him and he just vanished. Then they went round the room. Took them all, except for me. I don't know why I was spared. They came up to me, looked at me as if they could see right inside me, then they turned away."



The Raft lurched again. Fraz following his instructions, Quill supposed, the Engine Room setting about its task. Eventually he left the room, hardly able to look at Sower. He went to the lift. Mons came and took him up.

Neither of them spoke at first. Then Quill said, "Good to see you, Mons."

Mons pulled hard on the ropes, putting all his formidable muscles to the task. "Same here," he said.

"You lose anyone?"

Mons huffed. "Never had anyone to begin with," he said. "Seems to me they took the old and the sick. Thinned us out a bit. Maybe it's for the best. It was getting difficult to feed and clothe everyone."

Quill stared at him. He wanted to scream at someone, but not at Mons. He left without saying another word and went above deck. For a long time he stood by the rail on the port side; the mist rolled in for a while and The Fin's filters extracted water from it. The sun fell toward the horizon. It wasn't right; the sun should set on the starboard side.

He turned away from the dust, threaded his way past the few dregs who had come above deck, and looked out towards the dense expanse of the jungle. A canister launched and arced away from The Raft. It was right but it was wrong. It thudded into the dirt and cast its contents over the surrounding area.

What was the point of it? To hold back the jungle? Or to bring it forward? Or something else entirely? Everyone on The Raft carried out their duties without hesitation, but no one knew why.

He took his bow from his shoulder. Sometimes there was good hunting in the last hour of the day. But on this day there was no need to hunt. They had all the food and water they needed, more than enough to feed so few.

Something came out of the trees. Quill stared at it. It was unlike anything he had ever seen before. It walked on four legs and was covered in a yellowish fur. It had a tail, like a dreg, but it looked strong and powerful. It stood proudly and watched The Raft as it passed.

Quill notched an arrow and drew it back, preparing to fire. He paused, waiting for . . . for what? For a reason? At last he set the bow down, and as The Raft continued on its path the creature receded into the distance.

The Wall was just a thin line on the aft horizon.

And by morning, that too had gone.

He still stood by the rail, chilled deep into his bones. What would be the purpose of his life now? And if he had a son, what would be the purpose of the boy's life? And his son's son?

Where was Oat now?

He did not like the direction The Raft was headed. Nor did he like the place they had just been. But the creature he had seen, that was interesting. It stood so proudly, and it lived a life Quill knew nothing of.

He went and picked up a line of rope, secured one end and threw the rest over the side. Without saying a word to anyone, he climbed over the rail and down. Down past the base of The Raft. His feet kicked at the dust as he landed. He turned to face the jungle, searching for an entry point where the twist of the wood was not so dense.

He raced like an arrow, and did not look back. ○

## STAYING THE COURSE

The news brings us this  
that we have not done enough  
entire groups vanishing beneath the pressures  
we brought to bear.

"The last typist died today  
in Loma Linda  
the fungal infections encouraged by  
global warming  
have wiped out typists everywhere  
and the last one  
in a literary zoo here in the sunny West  
succumbed to infection this morning."

We thought it was only the frogs.  
Strange regional die-outs  
of librarians  
booksellers  
even pencil manufacturers

have caused some of us to question  
our present direction.

"We will stay the course,"  
says the chapter leader  
of Local Idiots Number One:  
"We must not flinch in the face  
of lack of progress."

And of course  
it is in the nature of intelligent creatures  
to have no choice in the matter.

—Mark Rich

# GALAXY BLUES

PART ONE OF FOUR

## DOWN AND OUT ON COYOTE

Allen M. Steele

*Galaxy Blues* is set in Allen M. Steele's popular Coyote series. The author tells us that "while not a direct sequel to my last novel, *Spindrift*, it follows the events of the earlier book and shares a couple of its major characters. In the timeline of the Coyote series, it takes place after the original Coyote trilogy—*Coyote*, *Coyote Rising*, and *Coyote Frontier*—but can also be read independently." Allen's last Coyote story for *Asimov's*, "The River Horses" (April/May 2006), will soon be published in hardcover by Subterranean Press.

### ONE

*The narrative begins . . . our protagonist leaves Earth, in a rather illicit manner . . . subterfuge and the art of baseball . . . fashion tips for stowaways . . . suspicious minds.*

### I

**M**y name is Jules Truffaut, and this is the story of how I redeemed the human race.

It pretty much happened by accident. At the very least, it wasn't something I intended to do. But life is that way sometimes. We make our own luck, really, even when we don't mean to.

## II

Perhaps it's best that we start at the beginning, the day I came aboard the CFSS *Robert E. Lee*. Not as a crew member, despite the fact that I was qualified to serve as a junior officer, nor as a passenger, although I'd gone to the considerable trouble and expense of acquiring a first-class ticket. Instead, circumstances forced me to become a stowaway . . . but we'll get to that later.

Hitching a ride aboard a starship isn't easy. Takes a lot of advance preparation. I'd been on Highgate for nearly ten months, working as a longshoreman, before I managed to get myself assigned to the section of Alpha Dock where ships bound for Coyote were berthed. I'd taken the job under a false identity, just the same way I got on the station in the first place. According to my phony I.D., purchased on the black market back home in the Western Hemisphere Union, my name was Lucius Guthrie, and I was just one more guy who'd left Earth in hopes of getting a decent job in space. So I schlepped freight for six months before the foreman—with whom I'd spent a lot of time in the bar, with yours truly picking up the tab—determined that I was capable of operating one of the pods that loaded cargo containers aboard ships bound for Mars and the Jovian moons. I did my job well enough that, two months later, he reassigned me to take care of the *Lee* when it returned from 47 Ursae Majoris.

Which was exactly what I wanted, but even then I was careful not to make my move before I was good and ready. I only had one shot at this. If I screwed up, my true identity would doubtless be revealed and I would be deported to the WHU, after which I'd spend the rest of my life in a lunar penal colony. I couldn't let that happen, so my next step was to cultivate a friendship with a member of the *Lee*'s crew while he was on shore leave. Like my boss, I plied him with drinks and massaged his ego until he agreed to satisfy my curiosity by sneaking me aboard for an unauthorized tour. Pretending to be nothing more than a wide-eyed yokel ("Gee, this ain't nuthin' like one of 'em Mars ships!"), I memorized every detail of its interior, comparing what I saw against what I'd gleaned from engineering docs.

Two days later, the *Robert E. Lee* left port, heading out once more for Coyote. Two weeks after that, it returned again, right on schedule. Another two weeks went by, and then it was ready to make the trip again. That was when I put my plan into motion.

So there I was, seated within the cockpit of a cargo pod, gloved hands wrapped around the joysticks of its forward manipulators. I couldn't see much through the wraparound portholes—my view was restricted by the massive container I was loading aboard the *Lee*—yet my radar and side-mounted cams told me that the vessel lay directly below me, its cargo hold yawning open like a small canyon. All I had to do was slide this last container into place, and . . .

"X-Ray Juliet Two-Four, how are we looking?" The voice of Alpha Dock's traffic controller came through my headset. "Launch in T-minus twenty-two and counting. You got a problem there?"

Nag, nag, nag. That's all traffic controllers ever did. Sure, they had their own schedule to keep, but still . . . well, one of the things I liked the most about my scheme was that it gave me a chance to use their insufferance against themselves. A bit of revenge for ten months of henpecking.

"Negatory, Trafco. Putting the last container to bed now." I tapped the sole of my right boot ever so slightly against the starboard RCS pedal. This caused the reaction control system to roll the pod a few degrees to the left. "Aw, hell," I said, even as I compensated by nudging the left pedal. "Damn thing's getting flakey on me again."

The thrusters worked fine, but no one would know this until the maintenance crew took them apart. I'd been playing this game for the last couple of hours, though, complaining that something was wrong with the pod, thereby establishing an alibi for the precious few moments I would need.

"Bring it in when your shift's over." The traffic controller was impatient. "Just load the can and get out of there. Lee's on final countdown."

"Roger that." The truth of the matter was that I had perfect control of my craft. Handling a cargo pod was child's play for someone who'd been trained by the Union Astronautica to fly Athena-class shuttles. But in my role as Lucius Guthrie, I had to make this job seem more difficult than it actually was. "I'm on it. Tell Lee not to hold the count for me."

A short pause. The controller was doubtless on another channel, discussing the situation with Lee's bridge crew. *Just a small problem with one of our pods. Pilot says he's getting it worked out.* Meanwhile, I continued to slowly descend toward the starship. A few seconds later, I heard Trafco again. "We copy, X-Ray Juliet Two-Four. Don't stop for a coffee break."

"Wilco." I smiled. Fly ball to center, outfielder caught napping. All I had to do was make it to first base.

I carefully guided the container into Lee's hold, where it would join the nine others already aboard. Keeping an eye on the comp, I took a quick look around. As I expected, the hold was deserted. The two other pods that had assisted me earlier were gone, and with the countdown this close to zero, the crew member assigned to overseeing the load-in—who just happened to be the fellow who'd showed me around the ship—would have already cycled through the airlock so that he could get out of his suit before the captain sounded general quarters. Just as he'd told me he usually did.

So I was alone. My suit was sealed, the cockpit depressurized. I felt a slight bump as latches on either side of the hold seized the container and locked it into place. A double-beep from my console confirmed this. Safe on first, and the ball still in the outfield.

"All right, it's in." I reached forward, typed a command into the navigation subsystem. "Gimme a sec and I'm outta here."

I grabbed the horseshoe bar of my chest restraint, pushed it upward. A stab of the thumb against the buckle of my waist strap released me from my seat. Floating free within the cockpit, my own private countdown underway. *Four . . . three . . . two . . . one . . .*

Obedying the preset program I'd surreptitiously entered into the comp, the pod's manipulators released the canister. A second later, the RCS

fired a brief burst lasting only a second. Through the forward porthole, I saw the canister slowly receding as the pod moved away.

*"Roger that, X-Ray Juliet Two-Four,"* Trafco said. *"You're looking good."*

No doubt I was. A camera within the forward bulkhead monitored everything I was doing, its image relayed to both the traffic controller and a junior officer aboard *Lee's* flight deck. Everyone was ready to relax; the last container was loaded, and once my pod was clear of the hold the crew would shut the hatch.

*"Copy, Trafco,"* I replied. *"I'm . . . aw, damn!"*

Right on the dot, the pesky starboard RCS thruster misfired again, once more rolling the pod around. This time, though, the accident caused my pod to pitch forward so that the bottom of its hull faced the camera.

And that was when I popped the canopy hatch and bailed out.

### III

I love baseball. It's a game that seems relaxed, almost effortless, yet as with any great performance art, timing is everything. When a player steals second, for instance, he has to pick that moment when the pitcher is looking the other way. Sometimes that occurs in the split-second after the ball has left the mound. That's when the guy on first makes his move.

Although I'd worked over this part of my plan to the last detail, a dress rehearsal was impossible. So my heart was pumping as I pulled myself free of the cockpit. Grabbing hold of a fuselage rung, I twisted myself around until I was able to slam the hatch shut with my free hand.

*"X-Ray Juliet! What's going on out there?"*

I kept my mouth shut, and a moment later I heard my own voice through the headset. *"Hang on, it's just that damn thing again. I'm . . . okay, here it goes . . ."*

That was my cue. I kicked myself away from the pod, careful to keep it between myself and the camera. Perhaps there would be a minor, tell-tale perturbation caused by my kick-off, but I was counting on it being corrected by the pod's thrusters. I didn't look back to check as I sailed toward the containers neatly arranged in triple-stacked rows just below me. They were less than twenty-five feet away, yet I knew that I was exposed, if only for a few seconds. With any luck, though, anyone watching the screens would be too distracted by the runaway pod to notice what was going on in the background.

I just managed to insert myself into a four-foot gap between two of the topmost containers when I heard Trafco again. *"All right, roger that, Two-Four. Get out of there and bring it home. We'll have someone . . ."*

*"Thanks. Sorry about that."* My prerecorded voice cut off the controller before he was finished. *"Need to take a breather here. X-Ray Juliet two-four out."*

I let out my breath. From my hiding place between the containers, I looked up to see the pod rising from the hold. The autopilot would safely guide it back to its port within Alpha Dock; in the meantime, any further queries from Trafco would be met with my own voice, saying noncommittal things like *we copy* or *roger that*. The pod's polarized windows wouldn't reveal that its cockpit was vacant, and if Lady Fortune continued to stay

on my side, no one in the maintenance crew would check out XJR-24 for at least ten or fifteen minutes after it docked. Even then, it was a safe bet that that it would be a while before anyone put two and two together as to why Lucius Guthrie was AWOL. At least not until they checked the bar where I hung out, and that might take some time. The foreman was a nice guy, but he wasn't all that swift.

Wedging myself between the containers, I used my wrist unit to access the primary com channel. For the next couple of minutes, I eavesdropped on the chatter between the *Lee* and Highgate controllers. No sign that my trick had been detected. Cool beans. I was safe on second.

Exactly two minutes after I made my escape, I felt a vibration against my back and the soles of my boots. Looking up through my helmet faceplate, I watched the enormous doors slowly lower into place. The moment they shut, the interior floodlights shut down, and the hold was plunged into darkness.

I was still wary of the camera, though, so I didn't switch on the suit lights. Instead, I opened a pocket on my left thigh and pulled out a small UV penlight. Lowering my helmet visor, I activated its ultraviolet filter, then used the light to guide myself, hand over hand, between the containers until I reached the airlock in the forward bulkhead.

The airlock was already depressurized, just as I expected. Climbing into the tiny compartment, I shut the hatch behind me. A glance at the heads-up display on my faceplate: less than twenty seconds to spare. Grasping elastic loops on the walls and tucking the toes of my boots within the foot restraints, I braced himself for MCFA.

I couldn't hear the warning bells, but the Millis-Clement field activated on schedule. Gravity returned as an abrupt sensation of weight, welcome after two and a half hours of zero-gee. Even as my boots settled against the floor, though, I detected a faint rumble through the deck plates. The *Lee* was being released from its berth; in another moment, tugs would begin hauling the starship through the mammoth sphere of Alpha Dock, guiding it toward the giant hangar doors that had confined the vessel until then.

Time to make a run for third. Unsnapping a shoulder pocket, I pulled out a miniature tool kit. Within it was a small flat-head screwdriver that I used to pry open the service panel beneath the airlock controls. Part of my preparation included learning how to circumvent the internal sensors; it took less than a minute to locate the proper wire, which I cut with a pen knife. Now I'd be able to pressurize the airlock without anyone on the bridge taking notice.

The tugs had detached their cables and peeled away from the *Lee* when a green lamp on the airlock panel lit, telling me that the compartment was fully pressurized. I released my suit's collar latch and pulled off my helmet, then went about removing the rest of my suit. Beneath it were ordinary clothes: dress shirt and cravat, travel jacket, trousers and a thick pair of socks. All woven from cotton microfiber, they provided almost as much warmth as the single-piece undergarment I normally wore inside my suit, albeit without the luxury of internal waste-removal systems; for that, I'd taken the precaution of not eating or drinking for two hours before I went on duty.



From the thigh pocket of my discarded suit, I pulled out a pair of faux-leather boots. I put them on, then stood erect and checked my appearance in the glass window of the inner hatch. What I saw pleased me: a young guy in his early twenties, well dressed and obviously wealthy, but otherwise inconspicuous. Not an immigrant nor a tradesman, but rather the sort of person who'd have enough money to spend on a vacation to the new world. No one would guess that I was a former Union Astronautica officer desperate enough to escape from Earth to stow away aboard a starship with little more than the clothes on his back.

Yet I was more than what I wore. Once again, I patted the inside pocket of my jacket. The documents I'd need to prove my identity were there, along with L2,000 that I had converted into Colonial dollars—C1,200 at the current rate of exchange—at the BanqueAmericano branch on Highgate just two days ago. These things would come in handy once I reached my destination.

For now, I was a stowaway. Very soon, though, I'd play the role of a passenger . . . and once I set foot on Coyote, I'd become a defector.

#### IV

Four bells through the loudspeaker, followed sixty seconds later by a vibration passing through the floor, told me that the *Lee* had activated its differential drive. The ship was now on the way to rendezvous with Starbridge Earth.

A quick glance through the hatch window to make sure I was alone, then I turned the wheel counter-clockwise. Beyond the airlock lay an EVA ready-room, its walls lined with suit lockers. I found one that was empty and shoved my suit inside, then eased open the door and peered out.

I was on Deck 1, the ship's lowest level, about one-third of the way back from the bow. The central passageway was deserted, yet I knew that it was only a matter of minutes before the captain called an end to GQ and the crew would be able to move about freely. Closing the hatch behind me, I moved quickly down the narrow corridor, heading toward the bow.

From either side of me, I heard voices from behind the closed doors of various compartments. If an encounter was unavoidable, I was prepared to play stupid: *whoops, silly me . . . you mean this isn't the way to the lounge?* Yet I didn't run into any crew members before I found the ladder leading to Deck 2. A quick jog up the steps, and from there it was a short walk down another passageway until I reached the hatch to the passenger section.

I peeked through the window. No one in sight. I took a moment to straighten my cravat and run my fingers through my hair, then I grasped the wheel. The hatch opened with a faint sigh as I stepped out into the narrow alcove leading to the restrooms. The signs above the doors showed that they were all unoccupied. I quietly opened the door of the nearest one, shut it just loud enough to be heard, and then commenced down the center aisle.

Before it was seized by the Coyote Federation during Parson's Rebellion—an incident that was something of a coda to the Revolution—the *Robert E. Lee* belonged to the European Alliance, where it'd been known as the *EASS Francis Drake*. Once it was rechristened and became the

flagship of Coyote's fledgling navy, the vessel had undergone a major refit. It now served as the principal means of transportation from Earth to the new world. Although most of Earth's major governments had signed trade and immigration agreements with the Coyote Federation, the easiest way to get to 47 Ursae Majoris was to buy passage aboard the *Lee*. Tickets were cheaper, tariffs were lower, and—provided that one possessed the proper credentials—the customs hassles were fewer.

When I arrived on Highgate ten months ago, I didn't have a ticket, nor did I possess a tourist visa. Circumstances made it impossible for me to obtain either one, at least not by legal means. Over the course of the last ten months, though, I'd scraped up enough money to buy first-class passage aboard the *Lee*, and the same sources who'd provided me with Lucius Guthrie's identity were happy to do the same again, this time with fake documents proving that I was a gent by the name of Geoffrey Carr. The real Geoffrey Carr was a naïve young lad from England who'd become stranded on Highgate after failing to make a living as a nightclub comedian. As luck would have it, he'd run into Lucius Guthrie, who'd been willing to provide him with a ticket home for a little subterfuge on his part, with no questions asked.

So it was Geoffrey Carr who had a private cabin reserved for him aboard the *Lee*, along with the visa that would allow him to pass through customs once he reached Coyote. All he had to do was show up at the right gate at the right time, present his credentials and ticket . . . and once they were scanned, disappear into the loo just before the passengers were allowed to board ship. If Geoff did all that, he'd find a third-class ticket back to Earth waiting for him in my abandoned quarters, along with forged documents that he'd use to establish his identity as Lucius Guthrie.

This was the only part of my plan that depended upon me trusting someone else. I was confident that Geoff wouldn't let me down—in his own way, he was just as desperate as I was—but nonetheless I couldn't help but feel a certain twinge of anxiety as I strolled through the second-class cabin. I distracted myself by sizing up my fellow travelers. Seated four abreast on either side of the aisle, some were immigrants heading for a new life on another world; mothers and fathers held their childrens' hands as they gazed through the portholes, taking one last look at the planet they'd called home. A pair of clergymen in black suits, both wearing the helix-backed crucifixes of Dominionist missionaries. A couple of rich tourists, dressed in expensive clothes, speaking to each other in German. Business people in business suits, studying business notes for business meetings in hopes of making business deals on the new world. And dozens of others, of all nationalities—except, of course, citizens of the Western Hemisphere Union, who were forbidden under law to use space transportation not chartered by the WHU—whose reasons for being aboard I could only speculate.

I'd almost reached the front of the cabin when a uniformed steward stepped out of the galley. Surprised to see a passenger up and about, her eyes widened when she spotted me. "Sir, what are you doing out of your seat?"

"Very sorry. I had to use the . . . um, facilities." I feigned embarrassment. "Just a little nauseous, I'm afraid," I added, clutching my stomach. "Shouldn't have eaten before coming aboard."

A sympathetic nod, yet her eyes remained suspicious. A quick glance past my shoulder told her that all the second-class seats were occupied. "Where are you supposed to be?"

"That way." I nodded toward the bow. "Cabin . . ."

All of a sudden, I realized that I'd forgotten its number. After everything I'd just been through, that one small detail had slipped my mind. "Sorry, can't recall," I mumbled. "But it's just over here. . . ."

I started to step around her, but the steward moved to block my way. "Let me help you. May I see your ticket, please?"

"Of course." I reached into my jacket, pulled out the plastic wafer. There was a scanner attached to her belt. If she used it to examine my ticket, she'd see that, although Geoffrey Carr had passed through the passenger gate, for some reason his ticket hadn't been processed before he entered the pressurized gangway leading to the ship. If that happened, I'd have to hope that my only possible excuse—someone at the gate neglected to process my ticket; why, is that a problem?—would be enough to convince her.

Yet the steward didn't unclip her scanner. Instead, she glanced at the name and number printed on the card. "Cabin 4, Mr. Carr," she murmured, then glanced up at me. "Wonder why I didn't see you earlier."

"My mistake." I essayed a weak smile. "Haven't been to my cabin yet. Went straight to the head soon as I came aboard." I hesitated, then moved a little closer. "You may want to have the other passengers avoid using it for awhile. I switched on the fan, but still . . ."

"Yes, right." The steward hastily turned toward the passageway leading to the first-class cabins. "This way, please. . . ."

My accommodations were no larger than the airlock I'd cycled through, with barely enough room for two persons. Two seats facing each other across a small table, all of which could be collapsed into the bulkheads to make room for a pair of fold-down bunks. It's questionable whether being able to stretch out and sleep during the sixteen-hour voyage was worth two months' salary as a longshoreman, but the added measure of privacy was priceless. However remote the possibility that I would encounter someone who'd met either (the fake) Lucius Guthrie or (the real) Geoffrey Carr, that was a risk I didn't want to take. Hence the private cabin.

The steward showed me how everything worked, then inquired whether I would like anything from the galley. My throat was dry, so I asked for orange juice. She left, returning a few minutes later with my drink. Another admonishment for not being where I should've been during launch, but this time it was only a mild rebuke, like that given to a mischievous child. I accepted the scolding with good grace, and then she left me in peace, sliding shut the door behind her.

Alone again, I settled back in the forward-facing seat, sipping my O.J. as I watched the Moon drift past the starboard window. Too bad I wasn't seated on the other side of the ship, or I could have bid Earth a fond farewell. Perhaps it was just as well, though, and maybe even appropriate. I'd turned my back on home a long time ago. . . .

Considering this, I chuckled under my breath. No, that wasn't quite right. I had covered the bases. Now I was about to steal home.

## V

It took nearly six hours for the *Lee* to reach Starbridge Earth. I passed the time by playing solitaire on the table comp, now and then glancing up at the small wallscreen on the bulkhead. It displayed the ship's trajectory as it traveled from Highgate toward the starbridge, with occasional departure-angle views of Earth and the Moon. The steward stopped by to offer the lunch menu. I ordered Swedish meatballs with spinach pasta, and after I ate, I switched on the DO NOT DISTURB light, put my legs up, and took a nap.

A bird-like chirp woke me. I opened my eyes just as a woman's voice came through the wallscreen speaker. "*This is Commodore Tereshkova from the flight deck. We're now on primary approach to the starbridge, with final approach to hyperspace insertion in about ten minutes. . . .*"

I sat up a little straighter. I wondered how many of my fellow travelers recognized the captain's name. Anastasia Tereshkova, former commanding officer of the *Drake* and, before that, the EASS *Columbus*, the first European starship to reach 47 Ursae Majoris. After she'd led the *Drake's* crew in mutiny against the European Alliance, Captain Tereshkova had defected to the Coyote Federation, where President Gunther had subsequently appointed her commodore of its navy. To be sure, her fleet consisted of one starship and small collection of shuttles and skiffs, but nonetheless I was surprised that she was still on active duty. Apparently the commodore wasn't ready to hang up her astronaut wings quite yet.

"As a necessary part of our maneuvers, we will soon deactivate both the main drive and the Millis-Clement field," Tereshkova continued. "This means that we will lose artificial gravity within the ship. For your safety and comfort, we ask that you return immediately to your seats. Put away all loose items, then fasten your seat straps and make sure that they are secure. . . ."

I located my waist and shoulder straps and buckled them into place. Outside the door, I could hear stewards moving past my cabin. "Once we enter the starbridge, the transition through hyperspace will take only a few seconds. The entire event will be displayed on your screens. However, if you are prone to vertigo or motion sickness, we strongly recommend that you switch off your screens, lean back in your seats, and close your eyes. Stewards will provide you with eyeshades if you so desire. . . ."

The last thing I wanted to miss was going through hyperspace. Yet I could already imagine some of the passengers making sure that vomit bags were within reach, while perhaps regretting that they'd ordered lunch only a few hours ago.

"Once we're through the starbridge, our flight to Coyote will take another ten hours, at which point you will board shuttles for transfer to the New Brighton spaceport. In the unlikely event of an emergency, please be reminded that this ship is also equipped with lifeboats, which may be boarded from Deck 1 below you. Stewards will escort you to those lifeboats, which in turn will be operated by a crew member. . . ."

I couldn't help but snort at this. Although the *Lee* could still serve as a military vessel in a pinch, insurance underwriters on Earth had insisted that, once it was refitted as a civilian transport, certain accommodations

had to be provided to insure the safety of her passengers just in case there was a catastrophic accident. I doubted that the lifeboats had been jettisoned since their test flights.

*"We will have engine shut-down in four minutes, and commence final approach to starbridge five minutes after that. For now, though, just relax and enjoy the rest of the ride. Thank you very much."*

Tereshkova's voice was replaced by classic jazz—Miles Davis's *Sketches of Spain*—and the image on the screen changed to a forward view: the starbridge, seen as a small silver ring illuminated by moonlight, with red and blue beacons flashing along its outer rim. It had grown to twice its original size when there was a knock on the door.

Before I had a chance to respond, it slid open. Instead of the steward, though, a man about my own age stepped in. He wore the dark blue uniform of a Coyote Federation spacer, the insignia on his shoulder boards telling me that he was the chief petty officer.

"Mr. Carr?" he asked. "Mr. Geoffrey Carr?"

"Yes?" Pretending nonchalance, I gazed back at him. "May I help you?"

"Just want to make sure that you're secure." His gaze flitted about the cabin, as if he was searching for something. "Your belongings all stowed away?"

"Yes, of course." I forced a smile. "Thank you. The service has been excellent."

"Glad to hear it, sir." Another quick glance around the compartment, then he gave me a perfunctory nod. "Be seeing you."

I waited until he shut the door, then I unsnapped my harness and stood up. Moving to the door, I rested an ear against the panel. I heard a voice just outside—the petty officer, speaking to someone else—but the constant thrum of the engines rendered his words unintelligible.

I returned to my seat, fastened my harness again. Perhaps it was only a courtesy call by a senior crew member to a first-class passenger, but I didn't think so. The way he'd studied my cabin . . .

Laying my head against the back of my seat, I stared out the porthole. Safe on third . . . but the catcher had become wise to the play.

Stealing home might be trickier than I thought.

## TWO

*Forty-six light-years in five seconds . . . trouble comes knocking . . . a chat with the Commodore . . . truth and consequences.*

## VI

I watched through my cabin porthole as Starbridge Earth grew steadily larger, its gatehouse passing by so quickly that I caught little more than a glimpse of the small station that controlled access to the ring. I wasn't able to eavesdrop on communications between the gatehouse and the Lee's bridge, but I knew that, at the five-minute mark, our AI would be

slaved to the one aboard the station, ensuring that the *Lee* wouldn't enter the ring until, at T-minus-sixty seconds, the wormhole was formed.

Once again, I wondered if many of the passengers appreciated the delicate yet infinitely complex ballet of quantum physics that made this miracle possible, or just how much their lives depended upon split-second calculations that only a pair of AIs could make. If everything worked right, the *Lee* would be transported across forty-six light-years in little more than the blink of an eye . . . well, fifteen blinks of an eye, if you really want to nitpick. If anything went wrong, the ship and everyone aboard would be sucked into a singularity and reduced to a stream of subatomic particles . . . at which point, the notion of using lifeboats would be too absurd to even deserve a laugh.

I tried not to think about this, and instead sought solace in the fact that no ship had yet suffered such a fate. Even if I was in the command center—which is the place where I really belonged, not sitting in first class—there would have been little that I could've done. So I grasped my chair armrests and took slow, deep breaths as I continued to watch the monitor.

The chronometer at the bottom of the screen had just reached the sixty-second mark when, from within the center of the ring, there was a brilliant flash of defocused light. I winced and involuntarily raised a hand to my eyes, but not before I had a retinal afterimage of every color of the visible spectrum swirling around each other as if caught in the cosmic whirlpool of the wormhole's event horizon.

And then the remorseless hand of gravity shoved me back in my seat, and the *Robert E. Lee* plunged into the maelstrom.

## VII

The transition through hyperspace was as violent as it was swift. I tried to keep my eyes open. Really. I wanted to see what it was like, to be shot through a wormhole like a bullet down the barrel of God's own gun, but maybe there're some things that the Great Spirit just doesn't want us to see. In any event, my eyes squeezed shut as, for the next few seconds, reality itself seemed to twist inside-out. The ship shook so hard, I thought I'd lose a molar or two, and when it turned upside-down, I opened my mouth to scream only to find myself unable to breathe. Only the pulse hammering in my ears told me that I was still alive. So I clutched the armrests and gritted my teeth, and then . . .

It was over. As suddenly as it had begun, the violence ceased.

I opened my eyes, let out my breath. On the screen, all I saw at first were stars, yet even then I noticed that their patterns weren't the same as those I'd seen only a few seconds earlier. I had an urge to retch, but managed to fight it down. Sure, I knew how to keep from throwing up, yet despite years of training and hundreds of flight-hours, hyperspace was the most grueling experience I'd ever endured.

The screen changed a few seconds later, this time to depict a schematic diagram of the *Lee* moving away from a different starbridge. Tereshkova's voice came over the speaker: "*We've successfully made hyperspace transition. Many apologies for any discomfort you may have experienced. We will soon restore internal gravity, and then we'll reactivate the main drive and*



*commence the final leg of our journey. If you require assistance, please alert the nearest steward and they will help you as soon as . . ."*

I ignored the rest. Unfastening my harness, I pushed myself out of my seat and, grabbing hold of a ceiling rung, pulled myself closer to the porthole. The hell with what was on the screen. This was something I had to see for myself.

For a minute or so, I saw nothing but stars, with a white sun shining just beyond my range of vision. Then the *Lee* rolled to port and an immense planet hove into view. Swathed by wide bands of pale blue, violet, and purple upon which nearby moons cast small black shadows, the gas giant was encircled by silver-blue rings, so close that it almost seemed as if I could reach out and touch them.

47 Ursae Majoris-B, the jovian locally known as Bear. And nearby, illuminated by the sunlight reflected from its outer atmosphere, its inner system of satellites. Dog was the closest, shepherding the rings. Hawk was a little farther out; Eagle was on the other side of the planet, so I couldn't see it. Yet in the far distance, little more than a small green orb, lay the fourth and most significant of Bear's companions.

Coyote.

Something moist touched the corners of my eyes. I tried to tell myself that they weren't tears, but when I blinked and rubbed at my eyelids, tiny bubbles rose from my face. Yeah, okay, so I'm a big wuss at heart. Perhaps tears were appropriate at that moment, though, just as they'd been for the first person who'd laid eyes upon the new world.

I was here. After all that I'd gone through, all that I'd sacrificed . . . I was *here*.

The ship's bell rang four times, signaling the reactivation of the Millis-Clement field. I grasped the brass rail above the porthole and tucked the toes of my boots within the foot restraint. A minute later, there was a brief sensation of falling as weight returned, then my feet gently settled against the carpeted floor. I released the bar, but remained by the window.

If my identity had been discovered, as I suspected, then it wouldn't be long before I knew for sure.

I was right. A few minutes later, there was a knock at the door.

## VIII

My first impulse was to open it. But that's something Jules Truffaut would've done. Geoffrey Carr, on the other hand, was a spoiled young turk with little zero-gee experience; I had to pretend to be him, if only for a little while longer.

"Just a sec!" Pushing myself back to my seat, I buckled the lap strap, then took hold of the shoulder straps and gave them a quick twist and pull that tangled them together around my chest. A few loud obscenities for good effect, then I called out again. "Come on in!"

The door slid open, and I wasn't surprised to see the chief petty officer who'd visited me earlier. "Thank heavens you're here!" I exclaimed, making a show of fighting with the straps. "Why these damn things couldn't be designed better, I have no idea. Could you please. . .?"

He coldly regarded me for a moment, then silently nodded to someone



in the passageway. Another crewman appeared; my heart sank when I saw that it was the same one whom I'd befriended on Highgate a few weeks earlier. He gazed at me, and I watched as his expression changed from astonishment to anger.

"That's him, Mr. Heflin," he said quietly. "Same guy."

"Thank you, Mr. Marcuse. If you'll wait outside, please." Mr. Heflin stepped into the cabin. "I think you know how to release your harness, Mr. Guthrie. Please don't embarrass yourself by pretending you don't."

I can't tell you how relieved I was to hear this. Not that I wasn't dismayed that I'd been caught—I knew that was coming—but that Mr. Heflin had addressed me by my alias. My *other* alias, that is. This meant that no one had yet matched Lucius Guthrie's biometric profile to that of Jules Truffaut . . . and that meant there was hope for me yet.

"Certainly. Of course." I deftly unsnarled the shoulder harness, then unbuckled the lap strap. "Yes?" I asked, looking back at him again. "May I help you?"

"Commodore wants to see you." He cocked his head toward the door. "Let's go."

I could have made a fuss about this—I'd purchased a ticket, after all, so I was technically a first-class passenger—but I had little doubt that the chief petty officer could've called in a couple more crewmen and had me frog-marched to the bridge. And just then, I wanted to show that I was willing to cooperate. So I stood up and left the cabin without protest. The steward stood in her alcove, her face set in prim disapproval; past her, I caught a glimpse of second-class passengers craning their necks to see what the commotion was all about. Mr. Marcuse had the sullen expression of someone who'd been betrayed; I gave him an apologetic shrug, but he just looked away. I felt sorry for him; it would be a long time before he'd trust anyone during shore leave again.

I was heading down the passageway, with Mr. Heflin behind me and a warrant officer waiting at the hatch, when I spotted another passenger standing in the open door of his cabin. A short, middle-aged man, with a shaved scalp and sharp eyes. He studied me as I walked past, and I was about to dismiss him as another curious bystander when he favored me with a sly wink. Almost as if he knew something that I didn't.

This was the wrong place and time to strike up a conversation, though, and the warrant officer wasn't interested in letting me make new friends. An unnecessary shove against my shoulder, and I ducked my head slightly to exit the hatch leading from the first-class section. Now I was back in the utilitarian confines of the rest of the ship. Mr. Heflin slammed the hatch shut behind us, then the warrant officer beckoned toward an access shaft. As I began to climb the stairs, I noticed that they went downward as well, leading to Deck One.

A useful bit of knowledge. I tried to keep it in mind.

## IX

The bridge was located on Deck Three, within the superstructure that rose above the ship's bow. Although I'd seen photos of the command center during UA intelligence briefings, nonetheless I was surprised by just

how small it actually was. A narrow compartment, with major flight stations on either side of a long aisle: very tight, without an inch of wasted space. Nothing like those of the Western Hemisphere Union starships that once journeyed to Coyote at sublight speeds . . . but then again, the Union Astronautica weren't building them anymore, were they?

The captain's chair was located at the opposite end of the bridge, overlooking a split-level sub-deck where the helm and navigation stations were located. Commodore Tereshkova was waiting for me; when she stood up, I almost had an urge to ask for an autograph. Or even a date. Sure, she was nearly old enough to be my mother as well, but no command-rank officer in the Union Astronautica ever wore a uniform so well.

Then she turned glacial eyes upon me, and my sophomoric fantasies were forgotten. "Is this our stowaway, Mr. Heflin?"

Before he could respond, I cleared my throat. "Pardon me, but . . ."

"When I want to hear from you, I'll let you know." She looked at her chief petty officer. "Mr. Heflin?"

"Yes, ma'am. Cabin 4, first-class section, just where the passenger manifest said he would be." He paused. "He came quietly, without any resistance."

"And you have no idea how he got aboard?"

"No, ma'am. When Ms. Fawcett double-checked the manifest, she discovered that his ticket hadn't been scanned at the gangway. It was processed at the gate, but not . . ."

"Let me save you a little time," I said. "I slipped aboard through the cargo airlock, right after I ejected from the pod I was driving. If you send a man down to check, he'll find my suit in the ready room. Second locker from the left, if I . . ."

"We already know you're a longshoreman." Perturbed by the interruption, Tereshkova glared at me. "That we learned when we matched your ticket against Highgate's employment records. In fact, we had you pegged as a stowaway even before we went through the starbridge." She returned to Mr. Heflin. "Have someone go down to Airlock Five and see if he's telling the truth."

The chief petty officer nodded, then touched his headset mike and murmured something. "Excuse me, ma'am," I said, "but if you knew I was a stowaway, then . . ."

"It took some time." A faint smile. "Your steward became suspicious after she noticed that there were no carry-on bags in your cabin. This was, of course, after she found you wandering around the passenger section. She checked the cargo records, and when she discovered that you hadn't checked any baggage, she alerted the chief petty officer. The two of them accessed the passenger database, and that's when they realized that you weren't the same person who'd checked in at Highgate. So Mr. Heflin pulled up the IDs of everyone who works at the station, and when your face came up, he put it on the crew data screens. Mr. Marcuse recognized you as someone he'd met while on shore leave, and that was when Mr. Heflin decided to pay you a visit."

"But by then," I said, "the ship was already on final approach for the starbridge. Too late to turn back then, right?" She blinked, but said noth-

ing. "Well, at least I got that far . . ."

"Too far, so far as I'm concerned. We'll have to review our security procedures." Tereshkova sighed, then resumed her seat. "Good work, Mr. Heflin," she said as she picked up a datapad. "Please extend my compliments to Ms. Fawcett and Mr. Marcuse as well. Now, if you'll summon the warrant officer back to the bridge, I think Mr. Guthrie would like to see his new quarters."

"And you don't want to know why I'd go through so much trouble?" I tried to remain calm, even as I heard Heflin mutter something else into his headset. "After all, I purchased a ticket. That means I'm not a . . ."

"Without *bona fide* ID or a valid visa, you're whatever I say you are." Tereshkova was quickly losing interest in me. So far as she was concerned, I was little more than a nuisance. "Hope you enjoyed our first-class accommodations. I regret to say that the brig isn't nearly as comfortable."

"My name isn't Lucius Guthrie." Straightening my shoulders, I stood at attention. "I'm Ensign First Class Jules Truffaut, formerly of the Union Astronautica, Western Hemisphere Union. I hereby request political asylum from the Coyote Federation."

Tereshkova's gaze rose from her pad, and the navigator and helmsman darted curious glances at me from over their shoulders. I couldn't see Mr. Heflin, but I could feel his presence as he took a step closer. All at once, the bridge had gone silent, save for the random boops and beeps of the instrument panels.

"Come again?" Heflin asked.

I didn't look back at him. "As I said, sir . . . my name is Jules Truffaut, and I'm a former ensign in the Union Astronautica. My reason for being aboard your ship is that I wish to defect from the Western Hemisphere Union to the . . ."

"Is this true?" Tereshkova's eyes bored into my own. "If you're lying, so help me, I'll put you out the nearest airlock."

"Yes, ma'am. I can prove it." Raising my right hand as slowly as possible, I reached into the inside pocket of my jacket, pulled out my papers. "Copies of my birth certificate, citizen's ID, Union Astronautica service record . . . all here, Commodore." I handed them to her, and went on. "If you check my . . . excuse me, Lucius Guthrie's . . . biometric profile against whatever recent intelligence you have on the Union Astronautica, you'll find that it matches that of Jules Truffaut, who was expelled from the corps a little more than eleven months ago." An ironic smile came to me before I could stop myself. "I prefer to think of it as a forced resignation. Didn't have much choice."

"Uh-huh." Tereshkova unfolded my papers, gave them a brief inspection. "And what led you to make that decision, Mr. Guthrie?"

"Not Guthrie, ma'am . . . Jules Truffaut, as I told you." I hesitated. "It's a long story. I'd prefer not to get into details just now."

"I'm sure you would." She studied me with cool skepticism, her hands refolding my papers. "Of course, you realize that your allegation will take some time to investigate. Until then, we'll have to hold you in custody."

"Aboard ship?"

"Of course." A shrug that was almost patronizing. "It's an extraordinary . . . well, an unusual . . . claim you've made, and naturally we will have to look into it further. So until then . . ."

"So you're not willing to take me to Coyote." A chill ran down my back. "Commodore, please . . ."

"I'm sure my government will be willing to consider a petition for amnesty pending a thorough investigation. Until then, you're a stowaway, and will be treated as such." She glanced at her chief petty officer. "If you will . . ."

Mr. Heflin grasped my arm. Looking around, I saw that the warrant officer had returned, his right hand resting upon a stunner holstered in his belt. No doubt about it, my next stop was the brig.

There was nothing more to be said. I meekly allowed myself to be taken below.

## X

So there it was. I'd managed to cover the bases, but when I'd tried to steal home, the catcher tagged me before I could cross the plate. No sympathy from the ump. And now it was off to the showers for the rookie.

As Mr. Heflin and the warrant officer escorted me from the bridge, I contemplated my prospects. They didn't look promising. These two men would take me below and lock me in the brig, and there I'd remain for the next couple of weeks, until the *Lee* made the trip back through hyperspace to Earth. If I was lucky, my cell would have a porthole . . . well, no, maybe that wouldn't be so lucky after all. Because the most that I'd see of Coyote would be the distant view of a place that I'd never visit.

I had little doubt of what would happen next. Once we returned to Highgate, the Western Hemisphere Union would be informed that a stowaway had been caught aboard a Coyote Federation starship, and that this person claimed to be a former Union Astronautica officer. A Patriarch would quickly verify this, and make a formal claim of extradition. Under the articles of the U.N. treaty the Coyote Federation had signed with the WHU, there would be no way for this to be legally contested, because although I'd been nabbed aboard a Coyote vessel, I hadn't yet set foot upon Coyote itself.

That small fact made all the difference in the world. The Coyote Federation was considered to be a sovereign nation, true, but you can only defect to another country if you're already there. And although the *Lee* was under the flag of the Coyote Federation, it wasn't Coyote soil. At least not for someone who wasn't a citizen.

Nor had I given anyone aboard good and sufficient reason to break an international treaty. Like it or not, I was little more than an illegal immigrant who'd managed to con my way aboard the *Lee*, my former rank as a UA officer notwithstanding. If I'd been carrying top-secret documents, the situation might have been different; Tereshkova might then have been willing to go to bat for me. But I had nothing but the clothes on my back and a sunny smile, and neither of them cut much ice with her. Nor could I blame her. She had rules by which she had to play, and I was just some schmuck lucky enough to get to third base on a bunt.

But this was just the end of an inning. The game wasn't over.

We left the bridge and started down the ladder to the lower decks, Mr. Heflin in front of me and the warrant officer bringing up the rear. The steps were narrow; Heflin had his right hand on the railing, and I was willing to bet that the warrant officer was doing the same. And both of them were relaxed. After all, I'd been a perfect gentleman about this whole thing, giving no one any trouble at all.

I waited until we were about three steps from Deck 2, then I quickened my pace just a little bit. Not enough to alarm the warrant officer, but enough to put me within range of Mr. Heflin. Hearing me come closer, he started to turn to see what I was doing . . . and then I gripped the rail with my right hand and shoved my right foot against the ankle of his left foot.

Heflin tripped and sprawled forward, falling the rest of the way down the ladder. He hadn't yet hit the deck when, still holding the rail tight with my right hand, I threw my left elbow back as hard as I could.

Just as I hoped, I caught the warrant officer square in the chest. He grunted and doubled over, and I twisted around, grabbed hold of his collar, and slammed him against the railing hard enough to knock the wind from his lungs. Gasping for air, he started to fall against me. I let him go and jumped forward, landing on the deck next to Heflin.

By then, the chief petty officer realized what was happening. Raising himself on one elbow, he started to make a grab for me. I hated to do it—he seemed like a pretty decent chap, really—but I kicked him in the head, and down he went.

The warrant officer was beginning to recover. Still on the ladder, he clutched the rail as he sought to regain his feet. I snatched the stunner from his holster before he could get to it, though, and there was the awful look of someone who'd just screwed up when I shot him with his own weapon. He tumbled the rest of the way down the steps, landing almost on top of Heflin.

Hearing a gasp behind me, I looked around to see Ms. Fawcett standing in the hatch leading to the passenger section. For some reason, I didn't have the heart to shoot her, even though she posed a threat to my get-away.

"Thanks for the drinks," I said, and then I dove down the ladder to Deck 1.

Just as I figured, the lifeboat bays were located directly beneath the passenger section, where they would be easily accessible in case of an emergency. The hatches were on either side of a narrow passageway, tilted downward at a forty-five degree angle. I was halfway to the nearest when someone—Ms. Fawcett, no doubt—hit the panic button.

Red lights along the ceiling began to flash as a loud *barruuuggah-barruuuggah* came over speakers. A crewman darted through a hatch at the opposite end of the corridor. He saw me, and his mouth dropped open, but by then I'd grabbed the panel above the lifeboat hatch, wrenched it open, tossed it aside, and found the lock-lever within. A quick yank to the left, and the hatch opened with a hiss of escaping pressure. I jumped into the boat, then turned around and shut the hatch behind me.

No time for the niceties of strapping myself down or making sure that all systems were active. Any second now, either Ms. Fawcett or the crew-

man who'd seen me would be telling the bridge that their stowaway had made his way to the lifeboats. If I was going to make a clean escape, I'd have to do it before someone in the command center locked them down.

Hauling myself over to the control panel, I jabbed the red JET. button with my thumb, then grabbed a ceiling rail and held on for dear life. A loud whoosh of escaping pressure, the hollow clang of clamps being released, the solid thump of pyros being ignited. Through the round window of the hatch, I saw the cone-shaped cowl of the lifeboat port fall away amid a fine spray of crystallized oxygen and small debris.

A moment later, I caught a last glimpse of the lower hull of the *Robert E. Lee*. Then I began to fall to Coyote.

### THREE

*Aboard the good ship Lou Brock . . . no coffee for the wicked . . . coming in on a heat shield and a prayer . . . wherever it is you think are, you're not there.*

### XI

Forget everything you think you know about lifeboats; whatever it is, it's probably wrong. The one I stole from the *Lee* didn't have wings or landing gear, nor did it have particle-beam lasers for fending off space pirates; the first kind are rare, and the latter exist only in fantasy fics. Mine was a gumdrop-shaped capsule, about twenty feet in diameter at its heat shield, that bore a faint resemblance to the moonships of historic times. All it was meant to do was carry six passengers to a more or less safe touchdown on a planetary surface, preferably one that had an atmosphere. Other than that, it was useless.

But it *was* a spacecraft, with a liquid-fuel engine and four sets of maneuvering thrusters, which meant I had nominal control over its guidance and trajectory. And although the *Lee* was still eighty thousand miles from Coyote when I took my unauthorized departure, the boat also had a life-support system sufficient to sustain a half-dozen people for up to twelve hours. Therefore, I had enough air, water, heat, and food to keep me alive for three or four days.

So as soon as I was sure that I'd made my getaway, I grabbed hold of the hand rungs on the ceiling and pulled myself across the cabin. The lifeboat was tumbling end over end by then, but so long as I was careful not to look through the portholes, there was no real sense of vertigo. I reached the pilot's seat and pulled it down from the bulkhead. It was little more than a well-padded hammock suspended within a titanium-alloy frame, but it had a harness and a headrest, and once I strapped myself in, it was much as if I was in a simulator back at the Academy.

The next step was to gain control of my craft. I unfolded the flat-panel console and activated it. The board lit up just as it was supposed to, and I spent the next couple of minutes assessing the status of my vehicle. Once



I was sure it was fit to fly, I pulled down the yoke and went about firing reaction control thrusters, manually adjusting the pitch, roll, and yaw until the lifeboat was no longer in a tumble. The lidar array helped me get a firm fix on Coyote, and the navigation subsystem gave me a precise estimate of where it would be  $x$ -times- $y$ -times- $z$ -divided by- $t$  minus so many hours from now. Once I had all that lined up, I entered the data into the autopilot, then pushed a little green button marked EXECUTE.

A hard thump against my back as the main engine ignited. Gazing at the porthole above my head, I watched the starscape swerve to the left. Coyote, still little more than a green orb capped with white blotches at either end, drifted past my range of vision until it finally disappeared altogether. I wasn't heading toward where it was now, though, but where it would be. That is, if I hadn't screwed up in programming the comp. And if the comp was in error, then I would be taking a tour of the 47 Ursae Majoris system that would last until the air ran out.

The engine fired for four and a half minutes, giving me a brief taste of gravity, then shut down, causing my body to rise within my harness. I checked the fuel reserves and muttered a curse under my breath. That maneuver had cost me 42 percent of what was in the tanks; I'd have enough for braking, final course corrections, and atmospheric entry, but practically zero for fudge-factor. Like I said, the lifeboat was little more than an uprated version of the cargo pod I'd flown on Highgate. Even the training craft I had piloted at the *Academia del Espacio* was more sophisticated.

At the bottom of the ninth, I'd earned myself another chance at bat. Yet there was no room for strike-outs, and my next foul ball would be my last.

I let out my breath, closed my eyes for a second. Eighteen hours until I reached Coyote. Might as well offer my apologies to the home team. Groping beneath the couch, I found a small packet. I ripped it open and pulled out a cheap headset. Slipping it on, I inserted the prong into the left side of the console, then activated the com system.

"Hello?" I said, tapping the mike wand with my thumb. "Anyone there? Yoo-hoo, do you read?"

Several long moments passed in which I heard nothing, then a male voice came over: "*CFSS Robert E. Lee to CFL-101, we acknowledge. Do you copy?*"

"Loud and clear, Lee. This is—" I thought about it for a moment—"the Lou Brock. We copy."

A few seconds went by. I imagined bridge officers glancing at each other in bewilderment. Then a more familiar voice came online. "*CFL-101, this is Commodore Tereshkova. Please use the appropriate call-sign.*"

"I am using an appropriate call-sign." I couldn't help but smile. "Lou Brock. Outfielder for the St. Louis Cardinals. One of the greatest base-stealers of all time."

While she was trying to figure that one out, I checked the radar. The Lee was near the edge of my screen, about eight hundred miles away. So far as I could tell, it was keeping pace with me; I had little doubt that, if Tereshkova ordered her helmsman to do so, the ship could intercept my lifeboat within minutes.



*"All right, so you're a baseball fan."* When Tereshkova's voice returned, she sounded a little less formal. *"You're very clever, Mr. Truffaut. I'll give you that. If you'll heave to and allow yourself to be boarded, I'll see what I can do about getting you tickets to a game."*

I shook my head, even though she couldn't see me. "Thanks for the date, Commodore, but I'm going to have to take a rain check. Maybe next time you're in town?"

For a moment, I thought I heard laughter in the background. In the meantime, I was sizing up my fuel situation. If the *Lee* started to close in, I could always fire the main engine again. But I needed to conserve fuel as much as possible for retrofire and atmospheric entry; as things stood, I had barely enough in reserve to do that. The *Lou Brock* was no shuttle, and my margin for error was thin as a razor.

*"Ensign, you know as well as I do that this is pointless."* The commodore no longer sounded quite so affable. *"My ship is . . ."*

"Faster, sure. No question about it." I switched back to manual override, then raised a forefinger and let it hover aboard the engine ignition switch. "And you know as well as I do that there's no way in hell you can board me if I don't want you to do so. Allow me to demonstrate."

I touched the red button, held it down. A quick surge as the engine fired. I counted to three, barely enough time for the lifeboat's velocity to rise a quarter-g, then I released the button. On the screen, the *Lee* had drifted a few millimeters farther away. "See what I mean? Get too close, and I'll do that again."

No answer. If she had any remaining doubts whether I was an experienced spacer, that little display settled them. The *Lee* was capable of overtaking my lifeboat, sure, but her ship didn't have the equipment necessary to latch onto a craft whose pilot was willing to alter delta-V at whim. Not unless she wanted to position her craft directly in front of mine . . . but even if she were foolish enough to do so, my lifeboat would collide with her vessel like a coupe ramming a maglev train.

I'd never do anything like that. For one thing, it would be suicidal; I would die a quick but horrible death. For another, there were also passengers aboard, and the last thing I wanted to do was put their lives in danger. But Commodore Tereshkova didn't know I was bluffing; perhaps she'd realized that I'd just trimmed my fuel reserves by three-quarters of a percent, but there was no guarantee that I wouldn't pull silly crap like that again. And no one but a fool would play chicken with a madman.

The comlink went silent, doubtless while she talked it over with her bridge team and tried to determine if I was the lunatic I seemed to be. While they did that, I took the opportunity to get a new flight profile from the nav subsystem and feed the updated info into autopilot. To my relief, I discovered that all I'd done was shave twenty minutes from my ETA. I'd just let out my breath when Tereshkova's voice returned.

*"All right, ensign. Have it your way, if you must."* There was an undercurrent of resignation in her voice. *"You may proceed with your present course."*

"Thank you, Commodore. Glad you see it my way." Another thought came to me. "I meant it when I said that all I want is amnesty. You'll communicate that to your people, won't you?"

"I'll . . ." A brief pause. "I'll ask them to take that into consideration. Lee over."

"Thank you, ma'am. Lou Brock, over." I waited for another moment, but when I heard nothing more, I switched off the comlink.

All right, then. For better or for worse, I was on my own.

## XII

The *Robert E. Lee* remained on my scope for another hour or so, but gradually it veered away, its course taking it away from my lifeboat. Although I had little doubt that its crew continued to track me, the fact remained that it was a faster ship, and it had its own schedule to keep. Through my porthole, I caught a brief glimpse of its formation lights as it peeled away, its passengers probably enjoying dinner and drinks as they chatted about the minor incident that had occurred shortly after the ship had come out of hyperspace. *Sweetheart, did you hear about the man in Cabin 4 who lost his mind? Don't worry, I'm sure he's been properly dealt with . . . oh, steward? Another glass of wine, please?*

It took another eighteen hours for me to reach Coyote. I didn't have table service; my sustenance was the ration bars I found in the emergency locker, which tasted like stale peanut butter, and tepid water that I sipped from a squeeze-bulb. I caught catnaps now and then, only to wake up an hour or so later to find my hands floating in front of my face.

Little sleep, then, and no coffee. Not much in the way of entertainment, either, save for a brief skim of the emergency tutorials on the comp, which told me little that I hadn't known before. I sang songs to myself, mentally revisited great ball games and tried to figure out where critical errors had been made—the World Series of '44 between Havana and Seoul was one that I studied several times—and reviewed my life history in case I ever wanted to write my memoirs.

The rest of the time, I stared out the window, watching Coyote as it gradually came back into view, growing larger with each passing hour. My flight was long enough that I witnessed most of a complete day as it rotated on its axis; what I saw was a planet-size moon a little larger than Mars, lacking oceans but criss-crossed by complex patterns of channels, rivers, estuaries, and streams, with a broad river circumscribing its equator. By the time I was scratching at my face and wishing the emergency kit contained a shaver, I was able to make out geographic features: mountain ranges, volcanoes, tropical savannahs, and rain forests, scattered across subcontinents and islands of all shapes and sizes.

A beautiful world, as close to Earth as anything yet discovered in our little corner of the galaxy. Worth the effort to get there . . . provided, of course, that I didn't end my trip as a trail of vaporized ash following the slipstream of a man-made meteor.

When the lifeboat was about three hundred nautical miles away, the autopilot buzzed, telling me that the time had come for me to take over. By then I was strapped into my couch again. I took a deep breath, murmured the Astronaut's Prayer—"Lord, please don't let me screw up"—then I switched off the autopilot, grasped the yoke, and did my best to put my little craft safely on the ground.

While I was earning my wings in the *Academia del Espacio*, I logged over two hundred hours in simulators and four hundred more in training skiffs. Before I was thrown out of the UA, I'd also flown Athena shuttles, including one landing on Mars. But those were winged spacecraft, complete with all sorts of stuff like elevators and flaps and vertical stabilizers. As I said, though, the *Lou Brock* was only a lifeboat, and for this sort of thing I'd completed only as much training as I needed to graduate from cadet to ensign: four hours in a simulator, and my flight instructor had forgiven me for a crash landing that would have killed everyone aboard.

Now I was getting a second chance to show that I'd learned something from the part of my education that few spacers thought they'd ever use in real life. Watching through the windows, I carefully adjusted the lifeboat's attitude until it assumed a trajectory that would bring it over Coyote's northern hemisphere. I'd studied maps of the world, so I had a pretty good guess of what was where. Once I determined that I was somewhere above Great Dakota, I initiated entry sequence.

Keeping an eye on the eightball, I maneuvered the RCS thrusters until the lifeboat made a 180-degree turn, then I ignited the main engine. My body was pushed against the straps as the engine burned most of what remained of my fuel reserves. This lasted several minutes, and once my instruments told me I'd shed most of my velocity, I shut down the engine and fired the thrusters again, delicately coaxing the lifeboat until it had assumed the proper attitude for atmospheric entry. Then I revved up the main once more, this time to make sure that I didn't hit the troposphere too fast. When everything looked copasetic, I goosed the yaw and pitch a bit, fine-tuning my angle of attack.

This went on for about fifteen or twenty minutes, during which I barely had time to look out the porthole, let alone give the lidar more than a passing glance. Since I was coming in backward, I didn't have the luxury of selecting a precise landing site. At that point, though, all I wanted to do was make it through the upper atmosphere in one piece. So by the time a white-hot corona began to form around the heat shield, I couldn't tell where the hell I was going. Except down.

Gravity took over like a baby elephant that had decided to sit on my chest. Gasping for air, I struggled to remain conscious . . . and when my vision began to blur and I thought I was about to lose it, I hit the button that would activate the automatic landing sequence. It was a good thing that I did so, because I wasn't totally myself when the *Lou Brock* entered Coyote's stratosphere.\*

I was jerked out of my daze by the sudden snap of the drogue chutes being released. The altimeter told me that I was twenty-seven thousand feet above the ground. Through the porthole, I could see dark blue sky above a cotton-gauze layer of clouds. So far, so good, but I was still falling fast . . . but then there was another jolt as the drogues were released, and one more as the three main chutes were deployed. I sucked in a lungful of air. All right, so I wasn't going to become toast. Thank you, St. Buzz, and all other patron saints of dumb-luck spacers.

But that didn't mean that I was out of danger yet. Although the fuel gauge told me I still had .03 percent in reserves, that was practically

worthless so far as controlling my angle of descent. Firing thrusters now might cause the parachute lines to tangle, and then I'd be dead meat. So my fate was cast to the wind. Although I'd done my best to pick my landing site, so far as I knew I might splash-down in a channel. Or descend into the caldera of an active volcano. Or land on top of the Wicked Witch of the East and be greeted by the Lollipop Guild.

In any event, I had no vote in the outcome. So I simply hung on tight and clenched my teeth as I watched the altimeter roll back. At a thousand feet, there was the thump of the heat shield being jettisoned, followed by the loud whoosh of the landing bags inflated.

By then my rate of descent was thirty-two feet per second, according to the altimeter. I began a mental countdown from the half-minute mark. *Thirty . . . twenty-nine . . . twenty-eight . . . twenty-seven . . .* At the count of twenty, I decided that this was pointless, and simply waited.

Touchdown was hard, but not so violent that I did something foolish like bite my tongue. To my relief, I didn't come down in water; there was no rocking back and forth that would have indicated I'd landed in a channel or a river, just the tooth-rattling *whomp* of hitting solid ground. A few seconds later, there was the prolonged hiss of the airbags deflating; when I felt the bottom of the lifeboat settle beneath me, I knew that I was safe.

Welcome to Coyote. Now where the hell was I?

### XIII

I waited until the bags collapsed, then unbuckled the harness and rose from my couch. After eighteen hours of zero-gee, my legs felt like warm rubber, but otherwise I had no trouble getting on my feet. The deck seemed stable enough, but nonetheless the first thing I did was look out the window to make sure the lifeboat hadn't come down in a treetop. I saw nothing but what appeared to be a vast savannah of tall grass.

I already knew the air was breathable, so I went to the side hatch, removed the panel covering the lock-lever, and twisted it clockwise. The hatch opened with a faint gasp of overpressurized air. A moment later my ears popped. Coyote's atmosphere was thinner than Earth's, so I swallowed a couple of times to equalize the pressure in my inner ears, then I climbed through the hatch and dropped to the ground, landing on top of one of the deflated bags.

It was early afternoon wherever it was that I'd landed, the alien sun just past zenith in a pale blue sky streaked here and there with thin clouds. Although the air was a little cooler than I'd expected, the day was warm; it was midsummer on Coyote, if I correctly recalled recent reports of this world, which meant that it wouldn't get cold until after Uma went down. About two or three miles away, beyond the edge of the field, was a line of trees; when I stepped away from the lifeboat and turned to look the other way, I saw more forest, with low mountains rising in the far distance.

The lifeboat had a survival kit; I'd already found it during my long trip here. Yet although it included a map of Coyote and a magnetic compass, a fat lot of good they'd do me now. The mountains represented no landmark that I recognized from ground level, and although the compass would help me tell north from south and east from west, a sense of direction was

all but useless when I was ignorant of exactly where I had landed. So far as I knew, I was on the outskirts of Munchkin Land, about a hundred miles from the Emerald City.

But the kit also included food sticks, six liters of water, a firestarter, a survival knife, and a satphone. I could always use the satphone to call for help . . . but only as a last resort. I'd arrived aboard a stolen lifeboat, after having made a somewhat violent escape from a Coyote Federation starship. Therefore, it made little sense to yell for help when it was all but certain my rescuers would take me to the nearest jail. And although my two feet were safely planted on Coyote soil, these weren't exactly the right circumstances in which to beg for political asylum.

So . . . first things first. Gather as much stuff as I could carry, pick a direction, and slog it out of there, with the hope that I wasn't too far from civilization. I climbed back into the *Lou Brock* and used the survival knife to cut away the lining of my seat, with the intent of using it as a makeshift pack for everything I'd take with me, and perhaps also as a bedroll. Once I had a nice, long strip of fabric, I laid it flat on the deck, then placed within it water bottles and food sticks. I wrapped the strip tightly around my belongings and lashed it across my chest and back, where it made an acceptable sling. The satphone and firestarter went into my jacket pocket along with the map and compass, and the knife was attached to my belt. As an afterthought, I removed my ascot and tied it around my forehead as a sweatband.

So now I was good to go. Ready to tackle the Coyote wilderness, wherever it might lead me. Despite my trepidation, I found myself eager to discover whatever lay out there. This was why I'd joined the Union Astronautica in the first place: to explore new worlds, to go places where no one had ever gone before. Well, now I'd have my chance. . . .

One last look to see if I'd forgotten anything, then once again I dropped out of the lifeboat. Farewell, *Lou Brock*. You've stolen one more base, and this time slid home farther than you ever have before. Making sure that my sling was tightly knotted, I began to walk away from the lifeboat . . .

And straight into the muzzle of a Union Guard carbine, pointed straight at me from less than six feet away.

"Stop right there!" The kid holding the gun wore a blue vest over a short-sleeve uniform of the same color, and looked barely old enough to shave. "Don't move!"

"Not moving." Nonetheless, I started to raise my hands. The customary gesture of surrender wasn't appreciated, because the kid's trigger finger twitched ever so slightly. "Easy, soldier," I added, making like a statue. "Harmless. Unarmed. See?"

"Keep it that way." Still keeping his hands on his weapon, the boy spoke into his headset mike. "Charlie two, this is Bravo leader. We've got him. Repeat, we've got him."

We? Keeping my hands half-raised, I turned my head as much as I dared. To my left, another trooper was emerging from the high grass only a few yards away. I looked to my right, and caught a glimpse of a third soldier coming into view from behind the lifeboat. Like the squad leader, both carried Union Guard rifles, probably leftovers from the Revolution.

Unless my guess was wrong, they belonged to the Colonial Militia, second-generation members of the Rigil Kent Brigade that had kicked the Western Hemisphere Union off Coyote nearly twenty-five years before. These were the descendants of guerrilla fighters, and therefore wouldn't care much for the son of the son of their enemy.

I may have been surprised to find them, but they sure as hell weren't surprised to find me. Within minutes, a gyro roared down out of the sky, its twin-prop rotors flattening the grass around us as it touched down only thirty feet away. By then Bravo Company had forced me to my knees, ripped my sling from my shoulders, patted me down and removed everything from my pockets, then used a plastic strap to tie my hands behind my back. They marched me to the gyro at gunpoint, and offered little assistance as I struggled aboard.

And that's how I came to Coyote.

#### FOUR

*Busted on Coyote . . . the discreet charm of the Colonial Militia . . . weird incident in the stockade . . . and a business proposition from Mr. Morgan Goldstein.*

#### XIV

A couple of hours later, I was in a jail cell in Liberty. We will now have a brief pause to relish the irony of that statement.

As it turned out, my lifeboat landed in a savannah on the southern half of Midland, a large subcontinent just across the East Channel from New Florida. Indeed, if the *Lee* hadn't tracked the *Lou Brock* on its way down and informed the Colonial Militia of its touchdown point, I could have hiked east to Goat Kill River, then followed it north to Defiance, a settlement near the mountains I'd seen from my landing site. If I'd headed south, I would have found a fishing village called—so help me, I'm not lying—Carlos's Pizza, located on the banks of the Great Equatorial River. And if I'd gone west, I would have eventually reached the East Channel, where one of any number of pirogues, catamarans, tugboats, or yachts that plied the river could have picked me up.

In any case, I was never more than a day or two away from civilization. All the same, though, perhaps it was just as fortunate that the Colonial Militia found me when they did. Although I was close enough to a couple of towns to reach them on foot, the grasslands were rife with boids . . . and considering that I was unarmed save for my survival knife, an encounter with one of those man-eating avians would have been fatal. But the blueshirts got to me before that could happen, and so . . .

Well, to make a long story short, I wound up in what was colloquially referred to as the stockade, even though it was an adobe structure larger than some of the homes in town. Liberty, of course, was the first colony on Coyote, established almost a half-century ago by the original colonists



from the URSS *Alabama*. It had since grown into what might pass as a city if you squinted hard enough. I didn't get to see much of it, though; once the gyro landed just outside the stockade, the blueshirts marched me straight in.

The crime rate on Coyote must be really low, because the six cells on the ground floor were unoccupied save for a drunk passed out in the first one. The blueshirts handed me over to a proctor, a not-unkindly old guy they called Chief Levin. He walked me down to the end of the cell block, where he unsnapped my handcuffs before sliding open the iron-bar door. Dinner would be at sundown, the chief told me, and my arraignment was scheduled for tomorrow morning. If I needed anything before then, just yell. Then he slammed the door shut and walked off. I heard him return a little while later to rouse the drunk and usher him out, and after that I was pretty much left alone.

My cell was primitive but comfortable, or at least as comfortable as these things go. A foam-stuffed pad on a wrought-iron frame, complete with a blanket woven from some coarse fabric that I'd later learn was called shagswool. A pitcher of water and a ceramic cup. A commode that didn't flush, but instead was . . . well, call it a porcelain throne above a foul-smelling netherworld eight feet below; one whiff, and I resolved to keep the lid shut. Baked clay walls upon which previous guests had scratched their initials, along with some fairly interesting, if sometimes rude, graffiti. A ceiling light panel that looked as if it had been recently installed, evidence that modern technology had lately been imported from Earth.

It was the window that I enjoyed the most. Ribbed with four iron bars sunk deep within the adobe, with hinged wooden shutters on the outside, it wasn't glazed, but instead was open to the air outside. As I sat on the cot, back propped against the wall and legs dangling over the side, I savored the warm breeze of a late summer afternoon. Sure, I was a prisoner, and it was very possible that I would soon be aboard the *Robert E. Lee* again, this time as a deportee bound for whatever punishment the Patriarchs and Matriarchs of the Union Astronautica had in store for me. But for a short while, I'd get a chance to . . .

Something itched at my mind.

There's no other way to describe it. Imagine a mosquito bite, perhaps at your ankle. Annoying, but not painful. But when a mosquito tags you, it's just a flesh wound; you can scratch it until it goes away.

What I felt was a little like that, but instead deep within my head. Like something had crawled into my cerebrum and given me a tiny yet distracting little sting. Sitting up on my bunk, I reached up to rub the back of my neck. For a moment, the sensation went away, and I breathed a sigh of relief. Evening was closing in, with light fading through the window. I hoped that someone would close the outside shutters before it got too cold. And perhaps bring me something to eat, too. I hadn't . . .

Then I glanced at the window, and saw someone standing just outside.

In the waning light of day, it was difficult to make out his features. I stood up, stepped closer to the window. "Hey there," I said. "Who are you?"

He said nothing, but continued to stare in at me. He wore a dark brown



robe, its hood pulled up around his face. A fairly young man, a little older than myself, or at least that was my first impression.

Again, there was the itch in my mind . . . and suddenly, I tasted chicken. Roast chicken, warm, perfectly seasoned with just the right amount of paprika, garlic, saffron, sea salt, and black pepper. The chicken of the gods. Chicken the way Mama used to make it, back when I was . . .

Then my mind fell open.

Again, I have no other way to describe it. Imagine that there's a little trap door at the back of your skull, one that's been closed for so long, you've forgotten that it even exists. Then, one day, someone who has the key inserts it into the lock, turns it . . . and *whomp*, everything that is you rushes out. All your memories, all your knowledge, all your fantasies, all your little loves and hates, everything that comprises what you may call your soul gushes out as a stream of viscous black sludge.

As swiftly as it had opened, the door of my mind slammed shut. And as it did, the taste of chicken faded from my palate. Staggering away from the window, I managed to make it to the bunk before I keeled over.

I slept for only a little while before I woke up again. Feeling strangely hungover, I stumbled back to the window. Twilight was fading, and the stranger was nowhere to be seen. Once again, I was alone.

Something within my mind insisted that this was an illusion—you dozed off, a small voice said, *and had a vivid dream*—yet I couldn't quite believe this explanation. I'd just received a visitor. Of that, I had little doubt.

## XV

Dinner arrived about an hour later, on a tray carried in by Chief Levin, who slipped it through a rectangular opening in the door. By coincidence, it was roast chicken. Nowhere near as tasty as the mental impression I'd received just a little while earlier, but I was in no position to complain. Besides, I was starving. So I wolfed it down, cleaning the plate of the green beans and sweet potatoes that came with it. A small surprise to find that I'd been given a knife and fork; apparently no one seriously believed that I might try to make use of them as weapons. But the chief wasn't dumb; when he came for my tray, he made sure the utensils were in plain sight before he took it back from me.

Once again, I wondered why I hadn't yet seen the magistrates, let alone been charged with anything. I'd arrived late in the day, of course, but surely the legal system must have some means of processing those who'd just been arrested. Perhaps the magistrates were trying to find a lawyer who would represent me *pro bono*. Come to think of it, did they even have lawyers on Coyote? A few days ago, I would've hoped not—at least not by the standards of the Western Hemisphere Union, where one is guilty until proven innocent—but now that I was cooling my heels in a jail cell, I found myself praying for someone who had a better grasp of colonial law than I did.

I was still trying to figure out whether or not to plead guilty to whatever I would be charged with when I heard the cell-block door swing open. Two pairs of footsteps came down the corridor, and I sat up on my bunk.

Okay, this would be my solicitor. I hoped that his sheepskin hadn't been mail-ordered from Earth.

Then the chief stopped in front of my cell. With him was a short, rather pudgy middle-aged man with a shaved head. He looked familiar, yet I couldn't quite place him.

"Here he is, Mr. Goldstein." Chief Levin nodded in my direction. "Sorry, but I can't let you in. Rules . . ."

"Quite all right, Chris. So long as we can talk." Goldstein looked around. "Of course, if I could have a place to sit . . ."

He cast a look at the chief, and Levin turned and walked away. Goldstein waited patiently, the fingers of his left hand absently playing with the crease of his tailored trousers. Wearing a tan linen suit, a red silk scarf hanging loose around his thick neck, he was easily the best-dressed man I had yet seen on Coyote. Which wasn't saying much, because everyone I'd met so far was a blueshirt, but nonetheless this person practically smelled like money. Had to be a lawyer . . . and yet, I couldn't shake the feeling that I had seen him before.

Chief Levin returned with a straight-back wood chair that he'd found somewhere. "You're too kind," Goldstein said as the proctor placed it in front of my cell. "That will be all for now, thanks." He raised his right hand to the blueshirt, and I caught a brief glimpse of green paper neatly folded within his middle and ring fingers. The chief shook Goldstein's hand, deftly causing the Colonial to disappear, and then he vanished as well.

Goldstein waited until the cell block door slammed shut, then he turned to look at me. "Ensign Truffaut," he said, favoring me with a broad smile. "So good to see you again."

"I'm sorry, but . . ."

"Of course we have." Smoothing the back of his trousers with his hand, he sat down in the chair the Chief had brought him. "Can't blame you if you don't remember me, being rather preoccupied at the time. Mr. Heflin is very efficient in his duties, don't you think?" A sly grin. "But perhaps that lump you delivered to the back of his head will teach him not to mistake efficiency for attention to detail."

It was then that I recognized him. The passenger who'd emerged from his first-class cabin aboard the *Lee* just in time to see the chief petty officer escort me to the bridge. Goldstein nodded, his grin growing wider as I gaped at him.

"Ah, so . . . now you know." Goldstein reached into a pocket of his jacket, produced a pair of thick brown cigars. He offered one to me; when I shook my head, he shrugged and put it away. "If you hadn't been exposed," he continued, "I might have come over to ask if you wanted a poker game to pass the time." He used a pocket guillotine to clip the end of his stogie. "Then again, if I'd done that, I might have taken your cover story at face value . . . that you were a gentleman by the name of Geoffrey Carr, and nothing more interesting than that."

"Sorry to disappoint you."

"Disappoint me?" An eyebrow was raised as a gold-plated lighter was produced. "Far from it. In fact, you may be the answer to a problem I have. And I may be the answer to yours."

XVI

I didn't know quite what to say to that, so I simply waited as he flicked his lighter and used it to gently char the end of his cigar. Blue-grey fumes rose toward the ceiling; I don't smoke, but it was fragrant enough that I almost regretted not accepting the one he'd offered.

"Name's Goldstein. Morgan Goldstein." He settled back and stretched out his legs, so self-assured that you could have sworn he owned the stockade. "Ever heard of me?"

"No, I . . ." Then I stopped myself. "There's a Morgan Goldstein who's in charge of Janus, but . . ."

"But what?" He rolled his cigar between his fingertips, not quite looking at me. "Please. Speak your mind."

What was on my mind was the improbability of a billionaire sitting in a cell block, having a smoke and a chat with someone about to be convicted on felony charges. Sure, I knew who Morgan Goldstein was. Founder and CEO of Janus, Ltd., the largest private space firm in the solar system. Earth's, that is, or at least until just a few years ago, when he'd abruptly uprooted his corporation from the Western Hemisphere Union and relocated it to Coyote. There, he re-established it as the richest company in the new world, with himself as its wealthiest citizen. Although most of Janus's shipping interests still remained forty-six light-years away, the corporate headquarters were now located in Albion, not far from the New Brighton spaceport where, if things had worked out better, Geoffrey Carr would have peacefully disembarked.

"Yeah . . . sure, you're that same guy." I waved my hand back and forth to clear the air in front of my face. "And I'm Dorothy Gale, from Kansas."

His face darkened for a moment, as if nonplussed to find someone who wouldn't instantly take him at his word. Then he relaxed, and tilted back his head to exhale smoke at the ceiling. "Then I'd have to ask where you left your little dog, and why you couldn't have found a better place to park your farmhouse." He shook his head. "I'm not normally accustomed to proving my identity, but if you insist . . ."

Reaching into a coat pocket, he produced a data pad. I couldn't help but notice it was a SonAp Executive: state of the art, top of the line, in what appeared to be a platinum casing. He pressed his thumb against the ID plate, then raised the pad to his face so that the retinal scanner could check his eyes. A soft click and the pad opened. He tapped a couple of commands into the keypad, waited a moment, entered yet another set, then leaned forward to pass the unit through the cell bars.

"I'd prefer that you keep this information to yourself," he said quietly. "I'd rather not have it become common knowledge."

I took the pad from him and read the screen. Displayed at the top was the logo of Lloyd's of London. Beneath it was an account statement for Mr. Morgan Goldstein, along with a routing number that had been carefully blacked out. And under that was a figure in Euros that stretched into ten figures. Ten *high* figures.

"That's my net holdings in this one particular establishment," Goldstein said, his voice low. "At least as of yesterday morning, the last time I was able to update my portfolio via hyperlink. Sorry, but I'd rather not re-

veal my holdings in Zurich or the Bank of Coyote. They're considerably larger."

The data pad trembled in my hand. I wasn't completely convinced, though, so I used my fingertip to move the cursor to the BIO tab within the menu bar. Goldstein waited patiently while the screen changed again . . . and suddenly, I saw a portrait photo of the man seated on the other side of the bars. About ten years younger, with nearly as many hairs remaining on top of his head, but unmistakably the same individual.

"It's okay to breathe," Goldstein said after a moment. "I do it all the time. Good for the lungs."

I managed to give the pad back to him without dropping it. He was grinning like a fox as he closed it. "Now then, Dorothy . . . or may I call you Ensign Truffaut?"

"Ensign Truffaut is fine." I swallowed, tried to get us back to the informal level. "Jules is good, too."

"Jules, then . . . and you may call me Mr. Goldstein." The grin faded as he slipped the pad back into his pocket. "So you know who I am, and what I represent. Now I'll tell you why I need you, and what I can do for you in return." Another languid drag from his cigar. "You've heard of the *hjadd*, of course."

Who hadn't? An alien race, their home world located in the Rho Coronae Borealis system, they'd made contact with humankind about three years ago, when they'd permitted the survivors of the EASS *Galileo* to return to Coyote after their ship had been destroyed fifty-six years earlier. The *Galileo* had been sent out from Earth to investigate a deep-space object called Spindrift; a foolish mistake by the captain led to a lethal encounter with a *hjadd* starship, but the three surviving members of the expedition managed to convince the aliens that our race meant them no harm. This in turn led to the *hjadd* dispatching an emissary to Coyote, with a small delegation sent not long thereafter.

First contact, in other words. "Sure," I said. "I was hoping I'd get a chance to see one of them while I was here."

"Yes, well . . . you and me both, kid." Goldstein knocked an ash to the floor. "They've had an embassy here nearly a year, by local reckoning. A compound on the other side of town, not far from the Colonial University. But it's off-limits to everyone except a few people who they've accepted as go-betweens, and only rarely do any of them come out . . . and only then in environment suits so we can't see them."

"But we know what they look like." I'd seen the same photos everyone else on Earth had: creatures that resembled giant tortoises, only without shells, who stood upright on stubby legs and wore toga-like garments that seemed to shimmer with a light of their own. "Pretty weird, but . . ."

"Ah, yes . . . and it's the 'but' that's the crux of the matter, isn't it?" Goldstein studied the glowing end of his cigar. "A year on this world, and we still know little more about them than we did before they arrived. Although they know a lot about us . . . even Anglo, which their emissaries speak with the assistance of translation devices . . . they're very protective of what we learn about them. Believe me, I've had my people working at this for some time now. The best insight that I've been given is that

they're probably descended from a 'prey species' . . . a lesser form of life on their native world . . . that was subject to attack by predators until they learned how to compete. So they're cautious by nature, not given to opening up to others."

"So you're afraid of them?"

Goldstein gave me a cold look. "No. Not at all. The Dominionists consider them a threat to their doctrine, but me. . . ?" He shook his head. "If I really wanted, I could have their embassy nuked from orbit."

"I think someone tried that already." I remembered what happened to the *Galileo*.

"True, and I have no desire to repeat that mistake. Besides, it would be contrary to my interests." He took another drag from his cigar. "The *hjadd* want to pursue trade relations with humankind. Not with Earth, mind you . . . they don't trust that place, not after what happened with the *Galileo* . . . but with us, here, on Coyote. We have something they want, and they're willing to bargain for it."

"And that is. . . ?"

"Patience. We'll get to that." I shut up and he went on. "I'm not a diplomat, nor am I a scientist." Dropping his voice, Goldstein gave me a conspiratorial wink. "Fact is, I'm not that much of a spacer, even though I own a fleet of commercial spacecraft. The reason why I was aboard your ship in the first place was because I had to tend to business interests back on Earth, and the accommodations aboard the *Lee* are more comfortable than the ones aboard my own vessels."

"I was wondering about that."

"Keep it to yourself." Another puff from his cigar. "At any rate . . . I'm an entrepreneur, Jules. A businessman, and a damn good one if I say so myself. Started out by buying a second-hand lunar freighter that was about to be decommissioned and went from there." He patted the coat pocket in which he'd put his pad. "The trick to striking it rich is spotting opportunities when they come up and seizing them before anyone else does. And the *hjadd* . . ."

"Are an opportunity."

"Kid, I'm beginning to like you even more. Yes, the *hjadd* are an opportunity. Better yet, they're an opportunity no one else . . . particularly not my competitors . . . have managed to get their hands on. If Janus can reliably deliver what they want, then I stand to gain a monopoly upon whatever they have to trade in return. Not only that, but I'll have access to any other races with whom they have contact. When that happens, my company will become the sole freight carrier between us and the rest of the galaxy."

"Uh-huh. And what does the Coyote government have to say about that?"

"Oh, don't worry." Goldstein grinned. "They're in on it, too. The Federation Navy only has one ship big enough to handle that amount of cargo, and the *Lee* is already committed to the Earth run. After that, they have nothing but shuttles. And since I have the ships they need, they're just as willing to subcontract my company . . . for a generous share of the profits, of course."

"Sounds like you've got everything lined up."

"I've been working on this deal for the last six months, Coyote time. If all goes well, within the next two or three weeks we'll be sending the first commercial freighter to Hjarr . . . their home world, that is. There's just one last detail that needs to be taken care of . . . and that's where you come in."

Goldstein glanced at the cell block door, making sure that we were alone, then he shifted forward in his chair, leaning closer until his face was only a few inches from the bars. "One problem I had with this is putting together a crew," he went on, his voice lowered once more. "I've got a lot of good people, but I know damn well some of them are spies for my competitors . . . just as I've placed my own informants within their outfits. That's the way business is. Everyone wants to know what the other guy is doing, and tries to use that info to their advantage. But with something like this . . . well, the fewer risks I have to accept, the happier I'll be."

He toyed with the cigar in his hand. "So instead of bringing in a crew from Earth or Mars, I've decided to build a new team from scratch." He stopped himself. "Well, almost entirely a new team. Out of necessity, my chief engineer comes with his ship. But he's been working for me for a long time now, and I trust him like I would my own brother. For all other positions, though, I've had to recruit local talent."

I could see where this was leading . . . and yet, I couldn't quite believe it. "You want me?" I asked, and he nodded. "Why?"

"Because you impressed me." Goldstein exhaled a lungful of smoke, then looked me straight in the eye. "It took a lot of guts to steal that lifeboat the way you did, and it took even more to bring it safely to the ground. I know those lifeboats, kid . . . I've got the same type installed on my own ships . . . and they're a bitch to handle. And you managed to land one on your own, with no help from either the *Lee* or local traffic control. Like I said, I was impressed."

"Thank you." Yet I remained skeptical. "How do you know I'm not just lucky, though?"

"Once I found out who you were, I had my people check you out. You're a rather interesting fellow, Jules. Graduated fourth in your class at the *Academia del Espacio*. Served as a junior officer aboard the . . . what was the name of that ship?"

"The WHSS *Victory of Social Collectivism on Mars*."

"Oh, yes. Right." He rolled his eyes in distaste. "Never could understand the Union Astronautica's penchant for propagandizing ship names." He frowned. "You might have eventually earned your captain's bars, if it hadn't been for that business with your brother." A pause. "You realize, of course, you could've saved your career if . . ."

"You're not saying anything I haven't heard before." I didn't like to talk about Jim, particularly not with strangers. And so far as I was concerned, Morgan Goldstein was still little more than a rich guy who'd come to visit me in jail. "So what is it you want me to do? Be your commanding officer?"

Goldstein stared at me for a couple of seconds, then laughed out loud. "You certainly do have balls, don't you?" Leaning back in his chair, he



shook his head in obvious amusement. "I already have a CO, son, along with a capable first officer. What I need now is someone qualified to fly a shuttle, or just about any other small craft we may have aboard." His smile reappeared. "I had one or two other people in mind, but when I saw you'd worked as a longshoreman on Highgate . . . well, I knew I had my man."

If he meant to knock me down a peg or two, he did a good job of doing so. So I wasn't being recruited for the big chair, or even for the little one, but for a task that notoriously falls to Academy washouts, with my former employment as a pod jockey being the final selling point. If this was a job interview, I might have been tempted to walk out of the room . . . if I'd been able to, that is.

"Thanks for considering me," I murmured, trying to keep my temper in check. "So happy to hear that I'm suitable for your needs."

"More than suitable. You're the very man I've been looking for." Goldstein became more somber. "That is, of course, unless you want to go home. Then all I have to do is leave, and let my friends among the magistrates know that you're not interested. In that case, they'll call you in first thing tomorrow morning. The legal system here on Coyote may not be very merciful, but it is quick. You'll get a fair and speedy trial, and I have little doubt that you'll be deported. After that . . ." He shrugged.

"And if I sign up with you?"

"Then I put in a good word for you with the maggies, informing them I'm willing to post bail for you if you plead *nolo contendere*. You get one year probation, the government takes into consideration your petition for political amnesty, and in the meantime you go to work for me." Another smile. "I'll even throw in salary commensurate with that of a first-class spacer . . . non-union, of course . . . and see what I can do about finding you a room at an inn here in town. So what do you say?"

As if I had a choice? Besides, I had to admit, what he was offering was tempting under any circumstances. In the Union Astronautica, I might have eventually risen to the rank of captain . . . in which case I would have commanded a Mars cycleship, or even a Jovian freighter, and spent my life shuffling back and forth across the solar system.

At one time, that sort of thing had been my highest ambition. But now I was being given the chance to travel to the stars, to see things no one else in my class had ever dreamed of seeing. Sure, maybe it wasn't going to be from the vantage point of the captain's chair . . . but better this than a lifetime of sleeping on a prison cot.

"Yes," I said. "I'd like that very much."

"Excellent. Pleased to hear it." Standing up, Goldstein dropped his cigar on the floor. "I'll have a chat with my friends," he said as he ground the stogie beneath the heel of his shoe, "and I'll send someone by to pick you up tomorrow morning." He paused to look me over. "If you have a chance, write down your clothing sizes. That's a fine outfit you're wearing, but totally unsuitable for life here."

"I will. Thank you." All this and a trip to the tailor, too. It suddenly felt as if I'd hit the jackpot.

But not quite. Goldstein started to walk away when another thought

occurred to me. "By the way . . . you didn't say what sort of cargo we're taking to the hjadd."

He stopped. For a second, I thought he was going to turn around, but instead he merely glanced over his shoulder. "Oh, did I forget that? Sorry."

And then he disappeared. The cell block door creaked as it was opened from the outside, then it slammed shut once more. Leaving me to wonder if I'd just talked my way out of jail, or negotiated a deal with the devil.

## FIVE

*Goodbye, Your Honor . . . take me out to the ball game . . . where the aliens are . . . oh, Captain, my Captain . . . and a cold Rain.*

## XVII

**M**organ Goldstein was true to his word.

Early next morning, not long after Chief Levin brought in breakfast—which I'd didn't mind skipping; if the eggs had been any runnier and the bacon a little less fatty, I could have raced them against each other around my plate—another blueshirt showed up to take me to court. I straightened my clothes as best as I could, hoped that I didn't smell too ripe, then let him put the cuffs on me and lead me from my cell.

Two more blueshirts were waiting outside the stockade, along with a wagon drawn by an animal that looked like a cross between a water buffalo and a giant anteater. At least there was one creature on Coyote who stank worse than me. The shag farted a couple of times on the way across town, and I seemed to be the only one who noticed; my guard and the driver had had enough sense to pull scarves up around their noses.

I got a good look at Liberty along the way. Clapboard houses and log cabins lined packed-dirt streets; men and women in homespun clothes walked to work on wooden sidewalks raised a half-foot above storm gutters. We passed a schoolyard in which a crowd of children were at play, and from somewhere far off I heard a belltower clock strike eight times. Here and there, I spotted indications of advanced technology—sat dishes on rooftops, a hovercoupe parked in an alley, comps on display in a shop window—but otherwise the town looked as if had been transported across time and space from nineteenth-century America. Despite the opening of the starbridges, Coyote remained a frontier where the inhabitants had learned how to make do with what they could build with their own hands. I wasn't sure whether I liked this or not.

We finally arrived at Government House. The wagon trundled around the statue of Captain R.E. Lee, commanding officer of the URSS *Alabama* and founder of the colony, and came to a halt at a side door of the two-story wood-frame building. The blueshirts helped me climb down from the wagon; the shag passed gas one last time as a fare-thee-well, then I was marched inside.

A quick walk down a short corridor, and then I was escorted into a

small courtroom. On the other side of a low rail, two men were seated at a long wooden table. One of them stood up as I approached and introduced himself as my court-appointed attorney. Rail-thin and affable, with curly hair that seemed to stand on end, he seemed more like someone you'd find throwing darts in the nearest pub. Better to have him on my side, though, than the other barrister, who barely nodded in my direction before returning sour eyes to his pad; I wondered if being prosecutor was his way of compensating for going bald before he was thirty.

My lawyer had just finished telling me, in a low whisper, not to speak unless I was spoken to, and then only to say just that which was necessary—*play dumb, and let me do the talking*—when another door opened and the magistrates walked in. Two men and a woman, each wearing long black robes, all of whom looked as if they'd had lemons for breakfast. Everyone rose as they strode to the bench, and we took our seats again when they did. The chief magistrate picked up her gavel, gave it a perfunctory smack on the table and called court to order, and then we were off and running.

And I do mean running, because we were in and out of there in less than twenty minutes. The head maggie asked the prosecuting attorney if he was ready and willing to press charges against the accused, identified as Jules Truffaut. He responded that he was indeed: two counts of identity theft, possession of forged documents, stowing away aboard an interstellar vessel registered to the Coyote Federation, two counts of assault against Federation Navy officers, theft of a spacecraft registered to the Federation, unauthorized intrusion into Federation airspace, and unauthorized landing upon territory in possession of a Federation colony.

I didn't need to be familiar with colony law to know that I was seriously up a creek, and not just one found on this planet. Forget deportation. Considering that there was no question that I'd committed every single offense, I would be lucky if I spent the rest of my days in the stockade . . . if they didn't first ship my criminal ass back to Earth.

When the chief magistrate asked how I would plead, though, my attorney calmly rose to tell her that I was pleading *nolo contendere* to all charges, on the grounds that, as a citizen of Western Hemisphere Union who had grievances with his government, I had been forced to defect to Coyote with the intent of requesting political asylum. The magistrates took a few minutes to study their pads and murmur to one another, and then Her Honor summoned both attorneys to the bench. They spoke for five or ten minutes, their voices too low for me to hear. The lawyers returned to their seats, and my attorney barely smiled when the chief magistrate announced that my case would be remanded to a future date, as yet to be determined by the court. Until then I was free on bail, which had already been posted by a third party.

Another bang of the gavel, and it was over and done. My attorney shook my hand, wished me good luck, then turned and walked away. The last I saw of him, he and the prosecutor were ambling together from the courtroom, chuckling over some small joke I didn't catch. The magistrates had already disappeared; a brief glimpse of black robes gliding through the anteroom door, and they were gone. Even the blueshirts who'd brought

me here took a powder; one of them came forward to release my handcuffs, then he clapped me on the shoulder, told me to stay out of trouble, and followed his pal out of the room.

All at once, I was alone. Nowhere to go, with nothing to my name save for the clothes on my back and a few bucks in my pocket. I stood there for a moment, wondering just what the hell had happened. . . .

And then someone who'd been quietly sitting in the gallery all this time rose to his feet and came forward. A big guy, about a head taller than me and twice my size, with long blond hair and a thick beard to match. In a surprisingly mild voice, he informed me that his name was Mike Kennedy, and that he worked for Mr. Goldstein. Would I come with him, please?

### XVIII

A hoverlimo was parked out front of Government House, only the second ground vehicle I'd yet seen on Coyote that didn't have an animal hitched to it. Kennedy opened the rear door for me, and I wasn't surprised to find Goldstein seated inside.

"Mr. Truffaut, good morning." In hemp jeans and a light cotton sweater, Goldstein was more casually dressed than when I'd seen him the night before. "I trust your arraignment went well."

"Yes, sir, it did." I climbed into the back of the limo. "No small thanks to you, I assume."

"Think nothing of it. I try to . . ." His voice trailed off, and there was no mistaking the look on his face as he caught a good whiff of me. I tried to sit as far from him as possible, but even so he pushed a button that half-opened a window on his side of the car. "I endeavor to accommodate my employees," he finished, his voice little more than a choke, then he leaned toward the glass partition between the passenger and driver seats. "Could you turn on the exhaust fan, please, Mike?"

Without a word, Kennedy switched on the vents. Cool air wafted through the back of the limo. "Sorry," I murmured. "Three days without a bath . . ."

"No need to apologize. Can't be helped." Goldstein tapped on the glass. The limo rose from its skirts and glided away from Government House. "I'm afraid I'm still a little overcivilized. There's still settlements where people take baths only two or three times a week . . . that's a Coyote week, nine days . . . and then in outdoor tubs just large enough to sit in." He paused, then added, "I've had to do it myself, from time to time."

"Of course." He'd made it sound as if going without a bath for more than a day or two was an act of barbarism. For him, perhaps it was. "At any rate, thank you. I appreciate you acting on my behalf."

"Think nothing of it," he replied, waving it off. "You're working for me now . . . and you wouldn't do me any good if your residence was the stockade, now would you?" He smiled. "Soon enough, I'll have you at an inn here in town. Nice place . . . hot running water, two meals a day . . . and there's clothes in your room that Mike has bought for you. You didn't have a chance to give me your sizes, so we had to guess a bit, but . . ."

"I'm sure they'll be fine. Thank you, sir." I was gazing out the window

beside me. This part of Liberty had apparently been built more recently than the neighborhood around the stockade and Government House. I caught a brief glimpse of shops, open air markets, tidy parks surrounded by red-brick bungalows. Very few vehicles, although I spotted a teenager seated on a hoverbike, chatting with a couple of young ladies. More often than not, though, I saw hitching posts to which both horses and shags had been tied.

"Look over here," Goldstein said, and I craned my neck to gaze past him. A collection of adobe and wood-frame buildings arranged around a quadrangle. "The Colonial University. Established a few years after the Revolution by some of the original colonists. It's grown lately, thanks to endowments from Janus."

"I'm sure they appreciate it." My new boss seemed to never let a chance slip by when he could brag about his munificence. Not that I could blame him; if I owned what was probably the only hoverlimo on a world where most people rode horses, I'd probably do the same. I was about to ask whether any schools had been named after him when something in a field across the road from the campus caught my eye.

The moment I saw it, I knew exactly what it was.

"Stop the car!" I snapped. Kennedy hit the brakes, and before Goldstein could prevent me, I opened my door and hopped out. For a few moments I stared at the field, utterly surprised by what I'd found.

Four bases, with white powder lines running between them, a small mound within the center. Bleachers behind the first and third bases, and a tall, chain-link fence forming an open-sided cage just behind home plate. Small wooden sheds on either side of the cage, with wood benches inside each one. And from the top of the cage, a blue and gold pennant that rippled in the morning breeze:

BREAK 'EM, BOIDS!

"Well, I'll be damned," I murmured. A baseball diamond. Of all the things I'd least expected to see on Coyote . . .

"Oh, that?" Goldstein had followed me from the limo. "Belongs to the university team. The Battling Boids." A disinterested shrug. "Next week they go up against the Swampers, or whatever they're called. . . ."

"The Fighting Swampers." Mike Kennedy gazed at us from the open window of the limo. "From Petsloc U." He pronounced it as *pets-lock*.

"The People's Enlightenment Through the Spirit of Social Collectivism University." Goldstein shook his head. "Not much of a school, really. More like a small liberal arts college set up by some unreformed social collectivists. But they've got a pretty good ball team. . . ."

"Are you kidding?" Kennedy laughed out loud. "Boss, they stink. Half the time, they're arguing over who's most politically correct to play short-stop. . . ."

"Never mind." Goldstein was obviously amused by my reaction to something as trivial to him as a baseball diamond. "If I'd known you were such a sports fan, Jules, I would've mentioned this earlier."

I bit my lip at his condescension, but said nothing. Although I'd read as

much as I could about Coyote before making the decision to defect, I hadn't a clue that baseball was played here. And for those of us who truly love the game, it isn't just a sport; it's a fixation nearly as consuming as sex, drugs, or religion, albeit with none of the unpleasant side effects. When I'd left Earth, I'd thought that this was one thing I was leaving behind. In hindsight, I should have known better. Humankind always carries its culture with it, and no place is truly habitable unless it has baseball.

"I think . . ." I let out my breath. "I think I'm going to like this place."

"Hmm . . . well, so long as we're here, there's something else I'd like to show you." Goldstein touched my elbow. "Take a walk with me?"

It didn't sound like a request, but after two days floating around a lifeboat and another cooped up in a jail, any chance to stretch my legs sounded like a fine idea. I nodded, and Goldstein turned toward the university. As we crossed the road again, he raised a hand to Kennedy, gesturing for him to remain behind.

He said nothing as we cut across campus. The Colonial University was a little larger than it appeared from the road. Some of the buildings were taller than others, and someone had obviously devoted some time and effort to landscaping. Shade trees lined gravel walkways, with benches and abstract sculptures placed here and there; students strolled between buildings, chatting amongst themselves, or sat alone beneath trees, engrossed in their books and pads. We sauntered past a kidney-shaped pond where an elderly woman held an open-air seminar with a dozen or so pupils. None appeared much younger than myself, and I felt a twinge of envy. Before things had gone sour for me, I could have been one of them. An academic life, shielded from the realities of the larger and sometimes very harsh world.

We'd reached the far side of the campus, and had walked up a small hill overlooking the pond, when Goldstein came to a halt near a tree-shaded bench. "Over there," he said, pointing away from the university. "See it?"

Just beyond a small glade, only a few hundred yards away, lay what I first took to be a fortress. A ring-shaped structure, built of what seemed to be solid rock, its outer walls sloping inward to surround a cylindrical inner keep that vaguely resembled an enormous pillbox of the sort that had once been built by German soldiers during one of the world wars back on Earth. Narrow, slot-like windows were set deep within the keep's round walls, while wiry antennae jutted from its flat roof. There were no openings of any sort visible in the outer walls, although an indentation of some sort gave an impression of a gate that I couldn't make out through the trees.

"The hjadd embassy." Goldstein's voice was subdued, almost as if he expected to be overheard. "The original structure was built by us, on land President Gunther ceded to them as sovereign territory. That was shortly after the *Galileo* crew returned from Rho Coronae Borealis, with the Prime Emissary aboard. Once heshe determined that hisher people would be safe here, though, heshe summoned a ship from home. A few days later, two of their shuttles touched down over there, and then . . ."

He paused. "They created that place in four days."

"Yeah, okay, but . . ." Then what he'd just said struck home. "Did you say four *days*?"



"Uh-huh." Goldstein nodded toward the bench. "They wouldn't allow any of us to come near, but when I heard what was happening, I got someone to let me join the faculty members who were observing everything from here. "There was an expression of wonder on his face as his gaze returned to the distant compound. "It was like seeing a flower blossom in the early morning. At first, it didn't seem as if anything was happening. But after awhile, we saw that something was growing . . ."

"Being built, you mean."

"No. I mean it *grew*. No scaffolds, no heavy equipment . . . not even construction crews. It just rose from the ground, little upon little, so slowly that you didn't think anything was happening. Then you'd go away for coffee or to have a smoke, and when you'd come back you'd see that the outer walls were just a little taller than the last time you'd looked. And all of it solid . . . perfect, like it was a stone plant of some sort."

"Nanotech?"

"That's our best guess, yeah . . . but far more advanced than anything we've ever developed. Spectrographic imaging reveals that the walls are comprised of minerals found in the native soil, but that's as much as we know. It resists everything else we throw at it. Thermographs, sonar, radar, lidar . . . totally airtight. Even the windows are reflective. Nothing gets in and nothing gets out."

"So what have you . . . I mean, what have our people found out? About what goes on in there, I mean?"

"So far, the hjadd have allowed only three people inside. Carlos Montero, the former president, in his role as official liaison. He doesn't say much to anyone, but that's to be expected. A Dominionist missionary who . . . well, he's not talking to anyone either, but from what I've heard, he's had a crisis of faith." He paused. "The third person is myself."

"You?"

"Only so far as an anteroom, where I spoke with them through a glass window. That's the farthest they've allowed anyone, or so I've been told." Goldstein tucked his hands into his trouser pockets. "I wanted you to see this, to give you an idea of what we're going after. It's not just establishing trade relations with another race . . . it's getting our hands on technology of such magnitude that something like that is little more than a trinket."

Before I could answer, he turned his back to the compound. "Come on," he said as he began to walk down the hill. "Let's get you cleaned up. Then I'll introduce you to the rest of the crew."

## XIX

Goldstein had made a reservation for me at a small B&B called the Soldier's Joy, in the old part of Liberty not far from the grange hall that had been the meeting house of the original colonists. Before he dropped me off, Goldstein pointed to a tavern just down the road from the inn and told me he'd meet me there in three hours. Then the limo glided away, leaving me alone again in a strange town.

My room was on the second floor, and while it wasn't the presidential suite, at least it had its own bath, which was all that I cared about just then. So I took a long, hot shower that rinsed away the last of my travel

sweat, then wrapped myself in a robe I found hanging on the bathroom door and lay down on a feather-stuffed bed that felt nothing like a jail cot. I hadn't slept well in the stockade, and I figured I had time for a mid-day siesta.

The afternoon sun was shining through the windows when I woke up. Opening the dresser and closet, I discovered three changes of clothes, along with a shagswool jacket and a sturdy pair of boots stitched from what I'd later learn was creek-cat hide. There were even toiletries in the bathroom, including a sonic toothbrush and shaver. I got rid of my whiskers and brushed my teeth, then tried on a pair of hemp trousers, a cotton shirt, and a shagswool vest. Everything fit me better than I expected, even the boots; either Goldstein had an amazingly accurate sense for clothing sizes, or his people had found my specs during their research. I didn't know which prospect unnerved me more.

In any case, I arrived at the tavern a little less than three hours after promising Goldstein I would meet him there. I was on schedule, but my new boss wasn't. Or at least his hoverlimo was nowhere in sight. And the tavern itself was rather run-down. With a weather-beaten signboard above the front door proclaiming its name to be Lew's Cantina, it was little more than a log cabin with a thatch roof and fieldstone chimney to one side. Just a shack that someone had neglected to tear down.

I hesitated outside for a few moments, wondering whether I'd misunderstood Goldstein and gone to the wrong place. But there was nothing else in the neighborhood that looked even remotely like a bar or restaurant, and he'd told me he'd buy me a drink once I got there. So I walked across a wood plank and pushed open a door that creaked on its hinges.

Inside, Lew's Cantina was little more inviting than its exterior. A low ceiling with oil lamps suspended from the rafters. An unfinished floor upon which wood shavings soaked up spilled ale. Faded blankets hanging from log walls. Battered tables and wicker chairs, some of which looked as if they'd been repaired a few times. A stone hearth with a couple of half-burned logs. The bar was no more than a board nailed across the top of a row of beer kegs; behind it stood an old lady, thin and frail, who scowled at me as she wiped a chipped ceramic mug with a rag that probably played host to three or four dozen different strains of bacteria.

Yeah, this was definitely the wrong address. Yet just as I started to turn toward the door, someone in the back of the room called out.

"Hey! Your name Truffaut?"

I looked around, saw three people seated around a table next to an open window. Two men and a woman, sharing a pitcher of ale. I nodded, and the guy seated on the far side of the table beckoned me. "You're looking for us. C'mon over."

As I walked across the room, the fellow who'd spoken rose from his chair. "Ted Harker," he said, offering his hand. "Commanding officer of the . . ." His voice trailed off, as if unsure how to finish. "Well, anyway, just call me Ted. We don't stand much on formality. Have a seat. We've been waiting for you."

Ted Harker? The name sounded familiar, although for the moment I was unable to place it. He looked like he was in his late thirties, with long

black hair tied back behind his neck and a trim beard just beginning to show the first hint of grey. "Thanks," I said, shaking his hand, "but I thought I was supposed to meet somewhere else here. . . ."

"Morgan?" This from the woman seated next to him. A little younger than Ted, with short blond hair and the most steady gaze I'd ever seen. Like Harker, she had a British accent. "Yes, well . . . figures he'd put you on the spot like this."

"Typical." The second man at the table, same age as Ted, with an olive complexion and a Middle Eastern lilt to his tongue. "Bastard has his own agenda."

"C'mon, now. Speak no evil of the man who signs our paychecks." Ted motioned to an empty chair, then turned toward the bar. "Carrie? Another round for the table, please, and a mug for Mr. Truffaut here."

"Jules. My friends call me Jules."

"Pleased to meet you, Jules." The woman smiled at me as I sat down. "I'm Emily. First mate." She didn't mention her last name, but neither did she have to; when she lifted her beer mug, I noticed the gold band on her ring finger. First mate in more ways than one.

"Ali Youssef. Helmsman and navigator." The other man extended his hand as well. "I take it you're our new shuttle pilot."

"That's what Mr. Goldstein . . . Morgan . . . hired me to do." I looked at the three of them. "So this is it? The entire crew?"

Ted shook his head. "We've got two more. One of them is using the facilities just now . . . she'll be back in a minute . . . and the other is arriving with the ship. And we'll have two passengers as well. . . ."

"More than two," Ali interrupted. "I spoke with Morgan earlier today, and he told me he's bringing someone else."

"What?" Ted stared at him in disbelief. "Well, that's bloody wonderful. So when was he going to tell the captain, pray tell?"

"Don't look at me." Ali shrugged as he took a sip from a glass of iced tea; he was the only person at the table not drinking ale. "I just happened to see him on the street, and he told me . . ."

"Morgan's going along?" This was news to me; he hadn't mentioned this during our previous conversations.

"He has to. After all, he's the one who's trying to make a deal." Emily let out her breath. "At least we're not having to deal with Jared again."

"No. He backed out at the last minute. Said one trip to Hjarr was enough for him." A wry smile from Ted. "Just as well. I had enough of him on Spindrift."

Spindrift. As soon as he said that, everything clicked. "Oh, good grief," I said, feeling my face go warm. "So you're . . . I'm sorry, but I didn't recognize you. You were on the *Galileo*." Before he could answer, I looked at his wife. "And that would make you . . ."

"Morgan didn't tell you?" Emily glanced at her husband. "Nerve of that guy."

Theodore Harker. Emily Collins. First officer and shuttle pilot respectively, they were two of the three surviving members of the *Galileo* expedition. Like everyone else on Earth, I'd heard about their encounter with Spindrift, the rogue planet that turned out to be a starship carrying the

remains of an alien race called the *taaraq*. Along with a third member of the expedition—it took me a moment to recall his name; Jared Ramirez, the astrobiologist—they had landed on Coyote fifty-six years after the *Galileo*'s disappearance, bringing with them the *hjadd* Prime Emissary. And now, here they were, they were seated across the table from me . . . and I hadn't even heard that they'd gotten married.

Ted looked as if he was ready to blow a mouthful of beer through his nose. He swallowed with difficulty, then looked at Emily. "Morgan certainly enjoys his little games," he grumbled, then returned his attention to me. "Yes, you've found us out. Not that we were trying to keep it from you, but . . ."

"Keep what from who?" a voice said from behind me, and I looked around to see a girl about four or five years younger than myself. Shoulder-length hair the color of cinnamon, a narrow but pleasant face, nicely curved everywhere that mattered. Incredible eyes, the shade of green you find at twilight on a midsummer day.

And then she looked at me and said, "Who the hell is this?" Like I was a bug she'd happened to find.

"Ensign . . . sorry, I mean Jules Truffaut," Ted said. "He's our shuttle pilot."

"Yeah. Okay." She started to sit down, but waited while the bartender hobbled over to the table with a fresh pitcher of ale. Carrie placed a mug in front of me, then quietly pulled back a chair for the girl. "Thanks, Carrie," she said, giving the old lady a sweet smile. "Oh, by the way . . ." She crooked a finger, and Carrie bent closer while the younger woman murmured something in her ear. She nodded, then stood erect and shuffled back to the bar.

"What was that about?" I asked once she was gone.

"No more paper in the outhouse. Thought she should know." She shook her head, then glanced at the pitcher with distaste. "You guys already on another round? For the love of . . ."

"You can have mine." I picked up my mug, offered it to her. "Too early for me."

"Don't drink." Ignoring me, she looked at Ted. "So who's keeping what from whom?"

"Never mind." Ted picked up the pitcher and reached for my mug. "Jules, allow me to introduce you to Rain Thompson. Our quartermaster and cargo officer."

"Happy to meet you. I . . ."

"Likewise." Rain barely glanced my way. "Skipper, I just saw Morgan's limo pull up. Looks like he's brought someone with him . . . besides his bodyguard, I mean."

"If you mean Mike Kennedy, I believe he prefers to be regarded as a valet." Ted frowned. "Probably our other passenger. Anyone you recognize?"

"Nope. Thought it might be this guy here—" meaning me "—but now that I know better . . ." She shrugged.

I was still trying to figure out what it was about me that put her off so much, or if she was just naturally rude to people whom she'd just met,

when the door opened and there was Goldstein. He hesitated just inside the door, looking back for a moment as if to see if someone was following him, then walked into the tavern. I noticed that he left the door open behind him . . . not by accident, but deliberately, as if to give someone lingering just outside a chance to make up his or her mind whether to come in.

"Gentlemen, ladies . . . good to see you again." He stopped behind my chair, placed his hand on my shoulder. "You found your way here, Jules. Excellent. And I trust you've introduced yourself to everyone?"

"Yes, sir, I have. Thank you, Mr. Goldstein." From the corner of my eye, I caught a sour look on Ted's face. Perhaps I was coming off as being just a little too deferential to a boss whom no one seemed to respect very much. No one likes a brown-nose, especially when he's the new kid in town. "I didn't have any trouble finding my way here," I added. "All I had to do was follow the cockroaches."

No one laughed. There was a cold silence as everyone stared at me. "If there's any cockroaches here," Rain said quietly, "they're probably just the ones you brought with you."

Emily coughed politely behind her hand, and Ali murmured something in Arabic. Yet Goldstein simply nodded as he pulled back an empty chair. "Perhaps I should have told you about this place before I directed you here," he said. "The cantina was erected by the original *Alabama* colonists, back in c.y. 01. They built it from materials left over from the construction of their houses, and it's older than even the grange hall. During their first winter on this world, they'd gather around the fireplace, keeping each other company on those long, cold nights when they were unsure of whether they'd survive until spring."

He glanced over at Carrie, who continued to putter around behind the bar. "Carrie's one of those colonists," he went on, lowering his voice. "She and her husband kept this establishment going on little more than barter and trade credit until the Union occupation. After the Revolution they came back, repaired the place, and opened it for business again. Lew died a few years ago, but she continues to brew her own ale and fix her own food. So show a little respect, please. You're on hallowed ground."

There was something in my mouth that tasted like my own foot. "Sorry," I mumbled. "Didn't know."

"Don't worry about it," Ted said. "Thought much the same thing when I first came here. Tip well and we'll call it even." Then he turned to Goldstein. "Right. So we've got our shuttle jockey. So where's our ship?"

"Your ship is on the way, Captain Harker. Ganymede-class freighter with only three Jupiter runs logged to her name." Ted opened his mouth, but Goldstein raised a hand before he could object. "I know you wanted a new vessel, but this is the best I could arrange on short notice. The next boat in its class is still in the shipyard, two Earth years away from completion."

"Boat?" Emily scowled at him. "We want a spacecraft, not a tub."

"Believe me, it's a good ship." Goldstein leaned back in his chair with the same air of confidence I'd seen when I was in the stockade. The man with all the answers, and the money to buy them. "Besides, you'll have an experienced chief engineer to go with it . . . someone who knows his ship back and forth."

"All right. I'll take your word for it." Ted picked up his mug, took a sip. "So who are our passengers?"

"Well . . ." Goldstein took a deep breath. "As you know, one of them is the Prime Emissary, Mahamatasja Jas Sa-Fhadda."

That caused me to sit up straight. That one of our party would be a hjadd was news to me. One more detail about this voyage that Goldstein had neglected to reveal. Or at least to me; no one else seemed to be surprised. "One of the reasons why the ship has been delayed," Goldstein continued, "is because we've had to retrofit one of its passenger decks as suitable quarters for it . . . himher, I mean."

"All right. I can understand that." Ted folded his arms across his chest. "What about our other passenger?" He nodded toward Ali. "He tells me that you told him you were bringing someone else, too."

Goldstein glanced toward the door. He hesitated, and for a moment it seemed as if he were waiting to hear someone say something. "A consultant," he said at last. "Someone who we'll need for this voyage, strictly in an advisory capacity."

Again, he gazed toward the door. A few seconds passed, and then a figure slowly appeared. A form draped in a dark cloak, hood pulled up around his face. He lingered for just a moment, then vanished again, without ever setting foot inside the cantina.

"That's Mr. Ash," Goldstein said. "He's rather shy, and I hope that you'll respect his privacy."

Rain stared after him. "Weird . . ."

Yes, he was. Just as weird as when I'd first seen him, peering in through the barred window of my jail cell. ○

(TO BE CONTINUED)

## CUSTOMER SERVICE OR SUBSCRIBER ASSISTANCE

Please direct all changes of address  
and subscription questions to:



**ASIMOV'S SCIENCE FICTION**  
6 Prowitt Street,  
Norwalk, CT 06855



## BURIED TREASURES

**THE GOOD FAIRIES OF NEW YORK**

by Martin Millar  
Soft Skull Press, \$13.95  
ISBN: 1933368365

**THE DEMON AND THE CITY**

by Liz Williams  
Night Shade Books, \$24.95  
ISBN: 1597800457

**NO DOMINION**

by Charlie Huston  
Del Rey, \$13.95  
ISBN: 0345478258

**THE SECRET CITY**

by Carol Emshwiller  
Tachyon, \$14.95  
ISBN: 1892391449

**SAGRAMANDA**

by Alan Dean Foster  
Pyr, \$25.00  
ISBN: 1591024889

Whether you call it evolution or devolution, SF publishing has changed rather radically from what it was, say, a decade ago. Most of the changes have been negative in terms of accessibility to potential readers and income to writers. However, perhaps there will turn out to be a small improvement or two in terms of literary freedom as the center of gravity, to coin an entirely paradoxical metaphor, moves to the fringes.

For, among other things, more of the most interesting fiction in the extended genre than not seems to be

found, at least by those able to find it, in the lists of the so-called small presses, and in the list of a publisher like Pyr, which seems to straddle, or perhaps in the end will erase, the distinction between such lists and the so-called major SF lines.

When you ain't got nothing, you got nothing to lose, as Bob Dylan had it. And when you're forced into, or choose, small press publication over the SF lines of the major corporate conglomerates, where it may not be a question of nothing to lose, but no realistic hope of a large enough readership to garner significant economic advantage, there may be something to gain in terms of literary freedom. Writers like Liz Williams, Martin Millar, and Carol Emshwiller may be rather invisible now, but they sure do have secrets left to reveal.

Here are three novels published by three different small presses—Millar's *The Good Fairies of New York*, published by Soft Skull Books, Emshwiller's *The Secret City*, published by Tachyon Press, Williams' *The Demon and the City*, published by Night Shade Books. All of which certainly have sufficient literary merit to have been published by the so-called major SF lines if that were still their determinative criterion, none of which have been, and probably only one of which could have been marginally commercially viable in their bottom-line terms.

Which is to say that without the small presses none of them would have been published at all, and the writers, who would have had to have

been smoking some really strong stuff to believe that they would be, might not even have written them in the first place. And things of absolute literary value, whatever that may mean these days, would have been lost.

After all, how many copies of a novel called *The Good Fairies of New York* could a bottom-line oriented SF line hope to distribute and to where? Well, there's gay high fantasy fandom, a sales manager who hadn't read the book might tell the editor mournfully after three martinis in the bar and a long snort in the powder room at a Worldcon. We might sell a couple thousand copies there.

But even that would be very wrong.

For one thing, Millar's fairies are no more homosexual as a group than a general cross-section of humanity, and for another they are literally, not metaphorically or pejoratively, fairies—little people from the British Isles, and as it turns out from China and Africa and Italy too, among other places, either long term denizens of their more or less ethnically assorted immigrant ghettos in Manhattan, or plunked down in the Big Apple from the Auld Sod by adventure or misadventure.

Nor are Millar's fairies all that good by the conventional moral standards of the conventional genre in which such fey flying personages are generally found. A good many of them are drunks, most of them are not above petty thefts and swindles—not to mention angry musical rivalries—and two of them are would-be punk rockers and obsessive fans of the New York Dolls and the Ramones.

Most of the action takes place in the more or less contemporary East Village, with side trips to Central

Park, Harlem, Little Italy, and Chinatown, for some converse with talking animals and faerie ethnic gang warfare.

And speaking of warfare, one of the reasons some of the fairies find themselves refugees in New York has to do with a guerilla war among the fairies back in Britain, between the libertarian more or less hippie traditionalists and a fairy king and his evil Iago who have established a modern corporate capitalist fairy fascist state and who eventually invade New York fairyland with fairy mercenaries from Ireland.

Oh yes, there are three human protagonists mixed up with the doings of the fairies; a Slum Goddess from the Lower East Side and a fat slob obsessed with TV porn channels who find fairies crashing in their pads, and a crazed bag lady who believes she is a general in an ancient Persian army.

As you have perhaps surmised, *The Good Fairies of New York* fits not at all into an existing commercial genre, nor could any spinmeister conceivably create one to contain it. Nor does it even merely cross or break genre boundaries; it's written as if Martin Millar was entirely ignorant of such apparatus, or if he wasn't, that he just didn't give a shit.

And the style in which Millar has written the novel, the angle or angles of attack, even the moral slants, fit no easy expectations, conventional consistency or consistent literary conventions. This is a fantasy novel and a piece of "street fiction," a comedy and a political novel in fairly angry earnest, full of the lore of British, Scottish, and English folk music and hardcore punk.

*The Good Fairies of New York* deliberately defies and blows riffs on

any number of expectations of any number of genres, from the title on in; a defiantly but rather gently humorous piss-take on them.

You either like this sort of thing—or rather this novel, since there is really no sort of thing that *The Good Fairies of New York* is one of—or you don't. Or some aspects please you greatly while others make you groan, depending on your individual constellation of literary tastes. The point is that this is a very individual novel, a boutique novel, if you will, highly unlikely to appeal to a mass audience of McFantasy fans or those who buy their reading matter in literary Wal-Marts.

Can there be a place for such a novel in a commercial SF line? Meaning an imprint of one of the handful of corporate conglomerates that dominate the racks in the chains? The major bookstore chains whose orders dominate their distribution expectations, which control their prospective print runs, which determine unit cost and whether there is any hope of turning a profit?

Which determine their decision as to whether to buy a novel or not, irrespective of literary quality?

Crank something like *The Good Fairies of New York* through this accounting software and the answer comes up No Way. Leaving it to the small press, whose commercial expectations are modest, whose advances are therefore minuscule, to buy according to taste and instinct, as was the industry norm in days of yore, throw a hail mary from inside the twenty-yard line, and hope for the best.

Liz Williams' *The Demon and the City*, on the other hand, is something that might have been publishable in a major commercial SF line, and all the more so since Williams

has been published in two of them, were it not the second novel in the Detective Inspector Chen series, the first of which was also published by Night Shade Books, with a third announced as forthcoming in the "Other Books by Liz Williams" page.

I ordinarily loathe this sort of thing, and more or less give an automatic bypass to the second volume in a series I've never heard of that promises to be open-ended, by a writer I've never heard of, and whose first volume I haven't read.

However. . .

However, the publisher's description gave the fictional locale as "Singapore Three," whatever that might be. I had fairly recently been in Singapore itself, where my interest in researching a possible novel, or, heaven help me, a series of novels, about the incredible but true exploits of the fifteenth century Chinese admiral Zhen He was rekindled. I am generally fascinated by things Chinese, so despite all of the above, I gave *The Demon and the City* a more careful look.

And was hooked.

What hooked me was not so much the story line, which, being that of a detective novel, is at least nominally that of a murder mystery, but the characters, the terrific job of world-building that Williams has done, and beyond that, the world she has built.

The Inspector Chen after whom the series is named is mostly on vacation during *The Demon and the City*, and the most prominent, if hardly the only, viewpoint character is his assistant cop, Zhu Irzh, a demon on loan to the Singapore Three police force from Hell.

The McGuffin is, of course, a murder, not of a particularly prominent personage, but of a somewhat de-

monic nature, which casts suspicion on Zhu himself even while he is investigating it. The case leads him deeper and deeper into the cyber, political, and religious machinations and struggles for dominance and/or the very continued existence of Singapore Three among humans, the gods and goddesses of more than one Heaven, and the forces of various factions of Hell, so complex and arcane that I will not even bother to make a futile attempt at a plot summary.

Where or when Singapore Three is or whatever happened to Singapore Two and Singapore One is never gone into in *The Demon and the City*. For all I know it might or might not be explained in *Snake Agent*, apparently the first Detective Chen novel, but as far as I'm concerned, it doesn't matter. And the fact that it doesn't matter, and that *The Demon and the City* would and does work quite well without any reference at all to anything outside itself and its Singapore Three is part of the charm of the novel—a central part, at least for me, and I would imagine to most readers who come to it cold.

Williams's Singapore Three and the heavenly, hellish, and cyber realms that surround it and interpenetrate it are a self-contained literary universe unto themselves. And an exceedingly complex and multi-layered one.

On a horizontal level, Singapore Three is a technologically and, particularly netwise, advanced version of the Singapore in our continuum, and like our Singapore it is an interpenetrating mélange of Chinese, Malay Muslim, and Hindu Indian populaces and subcultures.

On a vertical level, various celestial beings and hellish demons not only mingle with the human population but, like Zhu, can hold jobs,

have their own bars and hangouts, and can be captains of industry.

And it's even more complex than that. In the literary universe of Singapore Three, not only are gods and demons quotidianly real, not only do heaven and hell do economic and political monkey business with the human level, it's really heavens and hells in the plural, for every pantheon—traditional Chinese, Hindu, Muslim, whatever—is a reality that can interact with any other reality.

And however uncomfortable I may feel blowing my own horn in this regard, here it's necessary to say that I am rather conversant with these Eastern religions, mystical systems, cultures, and so forth, so that I can tell you that Liz Williams does a wonderful job of making all of it real down to the plethora of small telling details, and then extrapolating from it.

Here then is an open-ended series that could go on successfully endlessly, with each novel standing on its own and easily enjoyable by readers not conversant with what has gone before, because all that connects the episodes is not back story but the detective, in this case Chen, and the milieu in which he operates. Indeed, in *The Demon and the City*, "Detective Inspector Chen novel" or not, Zhu is the main character, and Chen does not even appear until late in the novel. So it is Singapore Three which is really the essential connective element.

This, of course, while a rare format for a science fiction or fantasy series, is the common strategy of the open-ended detective (noir, mystery, polar, call it what you will) series, with a detective or whatever out to solve a crime or a series of crimes, murder more often than not, in his or her characteristic milieu, and we will

pursue this a bit later with Charlie Huston's *No Dominion*.

For the moment, suffice it to say that while it is set in a milieu that is a series of interpenetrating fantasy realities rendered with science fictional verisimilitude, formwise, plotwise, characterwise, *The Demon and the City* is an episode in a detective novel series, and proclaimed as such, and that this strategy has produced many, many ongoing commercial successes.

So why have *The Demon and the City* and the other episodes of the Detective Inspector Chen series not been published in a major SF line whose editors would seem to have to be pretty brain dead not to see that the series would be commercially viable if published properly and literarily soulless not to see that it is literarily worthy?

Quien sabe?

Williams has had other works published in major SF lines, so it can't be the first novelist's lack of entrée. So perhaps, in a way somewhat similar to what seems to have happened to Alan Dean Foster and *Sagaramanda*, which we will get to later, there is a literarily commercial (or commercially literary?) reason. To wit, that the Detective Inspector Chen series is at once fantasy with a kind of science fictional esprit, set in an unfamiliar fictional universe extrapolated from and within non-western cultures, and a mystery series in form, and therefore editors and publishing executives of commercial genre lines, straitjacketed as they are by narrow genre marketing parameters, couldn't figure out what genre to stick it into, how to package it, or how to market it.

Bringing us to Charlie Huston's *No Dominion*, the only novel under this column's consideration that has

been published by a major commercial SF publisher, Del Rey. Well, maybe not exactly. Del Rey is supposed to be, and as far as I know always has been, strictly the science fiction and fantasy imprint of Ballantine books. *No Dominion* is a Del Rey trade paperback all right, but it's not packaged like a science fiction or fantasy novel at all, rather, justly and cleverly, as a hard-boiled detective novel.

Detectives can't get much more hard-boiled than Joe Pitt, the protagonist and first-person present tense narrator of *No Dominion*, who can hardly be called the "hero," though the reader does identify with him. For one thing, he's a vampire.

Which, I would surmise, is what justifies this Joe Pitt novel, and apparently the previous one *Already Dead*, being published under the Del Rey imprint rather than the more general Ballantine Books aegis, perhaps because it was a Del Rey editor who acquired them for the house.

In Huston's contemporary Manhattan, a vampire subculture exists within the human one, preying upon it when necessary, of course—though Pitt buys his blood supply—but otherwise staying discreetly hidden. The vampire subculture divides Manhattan into various turfs, with various ideologies aimed at vampire survival, or even above ground vampire liberation at some point in time, sometimes cooperating, sometimes warring, sometimes respecting uneasy peace treaties. Vampire Manhattan is further balkanized by the racial and ethnic chauvinisms and tensions of the Manhattan we know and love or not, from which vampires are not immune. And almost all of the city's vampires are apparently affiliated with one vampire clan or another if they know what's

good for them, a sort of vampire Beirut underlaid within New York.

This is the territory within which Joe Pitt operates. For backstory reasons I would assume are elucidated in *Already Dead*, he is unaffiliated, a lone operator in the good old hard-boiled dick tradition—useful from time to time to various vampire clans for that very reason, as operative or dupe and sometimes both, generally tolerated, but generally mistrusted.

And for good reason.

*No Dominion* is mostly set in the grittiest and most street-tough venues of Manhattan, and the vampire versions thereof, as one would imagine, juice up the savagery and violence another notch or two. But even among the vampire gangs of Lower Manhattan, Pitt has a well-justified rep as a savage, unpredictable bastard.

The novel opens with a gory and gorily detailed scene of Pitt beating the shit out of a vampire who has gone dingo in a bar under the influence of some horrible drug like STP, finally throwing him through the plate glass window, and it goes on from there.

Newbie vampires are being turned into crazed out of control homicidal maniacs by this stuff, whatever it is, threatening to bring vampires to the attention of the ordinary citizenry, and, uh, give them a bad name, something that the leader of the Society, one of the three most powerful vampire clans and one with the long-term goal of bringing vampires public, hardly favors.

Pitt, the loner, works for money and blood as a private contractor, and at this point is hard up for both, and so is constrained to play detective for the Society and track down the source of the drug. That's the plot engine of *No Dominion*, and it

leads Pitt uptown, downtown, around town, deeper and deeper and more dangerously into a writhing snake-pit of double and triple crosses, vampiric political machinations, torture, murder, and horror.

If this seems like the plot engine of any number of mystery novels and mystery novel series—the cynical hardboiled detective punching, shooting, fighting, staggering his way deeper and deeper into the more and more sinister and grandiose machinations behind what starts out as a fairly straightforward case—well, it is. If the addition of the horror novel element, even the horror novel element in the form of vampires, doesn't seem quite unique to the Joe Pitt series, well, it isn't.

But what makes *No Dominion*, and no doubt the ongoing series, shockingly and interestingly unique is the punkish gangsterism and/or cultish ideologies of the vampire clans, and the streetwise and uncompromisingly savage manner not only with which Pitt deals with them, but the style with which he narrates it all in first person.

Which is to say the character of Pitt himself.

Okay, the nasty loner hard-boiled, snide, sardonic detective is a familiar literary figure, and many of them tell their stories in first person. But generally it's a mask over a heart of mush or at least gruff reluctant idealism, good guys beneath it all.

Not Joe Pitt, at least not in *No Dominion*. Yes, he has a good side, a human lover from whom he keeps secret his vampire nature, and the service of whose medical survival motivates him, but he seems generally indifferent to the moral ambiguities of the vampiric ideologies and politics except when they impact on his own self-interest. And in the ser-



vice of that self-interest, self-preservation, cause enlisted in at the time, or even just because he's pissed off, he will do terrible things, up to, including, and surpassing casual murder, without an apparent qualm of conscience.

More interesting and shocking than Pitt's identity as a vampire is his character as something pretty close to a psychopath even by vampire standards and what is impressive about *No Dominion* is the power of Charlie Huston's style and unflinching deadpan angle of attack to make the reader identify with this bastard anyway.

So here we have, like *The Demon and the City*, an unusually well-written and interesting episode in a detective novel series in terms of form and protagonist, with a strong fantasy element. Another cross-genre novel, but one that found a home not in small press publication, but in a commercial SF imprint without a hint of SF packaging.

Why *No Dominion* and not *The Demon and the City*? And give that Charlie Huston has published "straight" hard-boiled detective novels under the Ballantine imprint, why in the Del Rey SF line where he is a newcomer? Because a hard-boiled vampire detective was deemed to have violated the parameters of the detective novel genre, whereas a vampire protagonist made it ipso facto "SF"? And if so, why package a Del Rey book as "non-SF"? Does not seem to compute.

Thus the ins and outs and ups and downs of major commercial SF publishing marketing strategies versus small press. But there is a third path, taken by all too many so-called "literary" writers, but very few writers of speculative fiction—the path that winds through the groves of

academe, grants, endowments, teaching gigs and so forth, and into small press or academic press publication. Commercial seppuku in terms of the economics of publishing, maybe, but a path that does lead more or less to the freedom to write whatever you damn well please if you know how to play that game.

Carol Emshwiller is one of the few writers of speculative fiction who has more or less successfully followed this path through a long, literarily distinguished, but popularly not all that visible, career. The "Works by Carol Emshwiller" in the front of *The Secret City* says it all. Six novels and five short story collections are listed, but they are outnumbered by thirteen assorted awards, fellowships, and grants, some of them familiar genre awards, but more of them not.

Now, a half century after her first publication, Tachyon Press has published *The Secret City*, a new novel that I at least would contend is her chef d'oeuvre, a kind of small-scale work that is damn near perfect, and the sort of thing that just about has to be in order to work. Emshwiller has always been more of a short story writer than a novelist, and *The Secret City*, though unequivocally a full scale novel in terms of length and form, relies for its successful effect on the control and precision that she has developed and relied upon in her long career as a writer of short speculative fiction.

Decades ago, after reading *Bug Jack Barron* or *The Iron Dream* or something of mine like that, Thomas Disch said to me something like "That's good stuff, but don't you ever deliberately try for an accumulation of small effects?"

I answered with a rather bemused no, not really getting it, but now,

though that's still not my sort of thing, at least I understand it, thanks in no small part to a novel like *The Secret City*. The set-up here is that an alien tour group got stranded on Earth a generation ago. Some of them chose to blend in with the "lowly" natives in order to survive, cleverly, or at times not so cleverly, disguised as perpetual human tourists, down to the cameras and Hawaiian shirts, while others sequestered themselves in their Secret City deep in the high mountains, all of them yearning for, waiting for, hoping for, rescue and return to their "superior" planet and culture.

But that's the first generation, and now—and Emshwiller sets the novel in our now—there's a second generation, born on the Earth, raised on their elders' tales of the home planet, longing for its wonders on the one hand, but skeptical on the other, and sometimes just wishing to integrate into human society more fully.

And then an alien rescue mission finally arrives. . . .

Okay, this sort of set-up is plenty of material for a wide-screen epic science fiction novel or even a trilogy, many of which have already been written. But that's not at all what Carol Emshwiller has done.

*The Secret City* is unequivocally a novel by the length standards of the Nebula and the Hugo (and certainly deserves to be nominated for them), but not by very much. Literarily, one could make the argument that rather than being a short novel, it's a very long novella, a dialectic that could go on far into many a night, and which I will mercifully refrain from getting too deeply into here.

There are two viewpoint characters and the whole novel is narrated by them in alternating first person segments.

The male is Lorpas, a young second generation alien with dim childhood memories of the Secret City, but brought up afterward within, or more precisely embedded in, human society. Taught to maintain his distance, he has lived more or less as an occasional day laborer, bum, and petty thief.

The female is Allush, a young second generation alien whose parents took her in the reverse direction, from an earlier childhood among humans to the Secret City, which, far from being an alien super metropolis or Shangri-La, is a small, weird, carefully overgrown, culturally isolated and technologically primitive village. She alternates between the approved longing for rescue and return to the home planet and the unapproved desire to return to the land of TV, cars, human technology and society, a life she has known firsthand and remembers as better than the life she's living now.

Lorpas gets in trouble with the law, and decides his only recourse is to retreat to the Secret City, along the way spending time working as a cowboy for a rancher and his teenage daughter, and eventually reaching the Secret City and meeting Allush. They begin to fall in love, there's a violent rival for her affections in the Secret City, they decide to descend together to the human realm. At which point, an alien rescue expedition finally arrives, snatches Allush, and returns home. But one of the rescuers gets left behind, and is taken by Lorpas back to the ranch, while Allush has bewildering experiences on the alien home world, and then—

But that's enough plot summary, the point here being to demonstrate that this is not your usual first contact, aliens among us, hugger-mugger, or action-adventure story. There

are only two central characters, and really only four other important ones. Most of the action takes place in small towns and countryside where the Rockies meet the Great Plains, with Allush's relatively brief side-trip to the alien home world, which she herself finds as weird as does the reader, and probably more distasteful.

*The Secret City* is secondarily a kind of more or less conventional love story, and primarily a story of complexly conflicting identities, and their resulting levels of alienation.

Both Lorpas and Allush have been indoctrinated to see the alien world they've never known as superior to Earth and themselves as superior to the humans from whom they're supposed to remain aloof, so they're alienated from the planet of their birth. But since they've never known the alien homeworld at all, and the only bit of alien culture they've had any contact with is the pathetic pale shadow of the Secret City, they're alienated, in effect, from being alien too.

Emshwiller chooses to set this story mostly in rural areas, small towns, or wilderness, and with this quite narrow and precise focus on character, and thereby has written maybe the most convincing novel of what it would *really* be like to be an alien among us. Alienated. Touchingly and complexly so.

In a rather cynical way, the literary nature of *The Secret City* argues for it as a long novella rather than a short novel in commercial genre terms—something that would easily find acceptance in a magazine such as the one you are now reading or its remaining small handful of comrades, or in an original SF anthology—but which as a novel can these days only find a home in the genre small press

or its academic literary kin. [Editor's Note: A short story about Lorpas was originally published in *Asimov's* January 2006 issue.]

But what, you may well ask, as I certainly am, is a novel like *Sagramanda*, by a writer with the credits of Alan Dean Foster, doing being published by even a more or less flagship genre small press like Pyr? Foster has hit the national best-seller lists any number of times with *Star Wars* novelizations, and novelizations of all three films in the *Alien* series, among others, and has had lesser but not commercially negligible success with SF novel series of his own. And *Sagramanda* is by far the best thing he's written thus far, a chef d'oeuvre for sure, and what's more, colorful, exotic, and reasonably action-packed, too.

The Sagramanda of the future is an enormous and enormously overpopulated city of some hundred million people in a relatively near-future India—not an actual Indian city of today extrapolated into the future, but a made-up city, a kind of composite, say, of Calcutta, Mumbai, and Bangalore juiced up with high tech methedrene and the results of an ongoing population explosion.

Taneer is a scientist who's stolen a recording of some designer DNA code from a major corporation, which, for reasons not revealed until the very end of the novel and which I certainly will not reveal here, is worth billions. He is on the run from its agent, the mercenary corporate assassin Chal Schneemann, a half Indian who loathes the country, with his lover Depahli, an "untouchable." The caste system, though long since illegal, still has social power, and Taneer, a higher-caste Hindu, is also being hunted by his father, who is determined to kill him for this disgrace to the family.

Sanjay Ghosh is a former dirt farmer from the countryside who's made a modest success in the city as a tourist junk merchant, purveyor of some higher value legitimate stuff and contraband, and sometime fence and go-between for upscale dealers who gets involved with helping Tanneer sell his goods for the commission of a lifetime. Jena Chalmetre is a French lunatic serial killer doing her stuff in what she conceives as the service of Kali. Kenshu Singh is a Chief Inspector out to get her before she becomes a media star. And there's a tiger escaped from a nature preserve come to the big city who's learned that its humans are premier prey.

All these threads start separately and stepwise weave together to come to a quite satisfying plot, theme, and character apotheosis at the very end, and along the way Foster paints a very detailed, sensorily vivid, culturally and technologically convincing, portrait of his extrapolated India via characters who come alive with psychological depth.

What more can you ask of a science fiction novel?

So what the hell happened?

Not to put down Pyr, which has published much worthy stuff, but given Alan Dean Foster's track record, why wasn't *Sagramanda* the coveted object of a hot auction to the highest bidder?

I can think of only two possible answers, one politically reprehensible and ominous, and the other in its literary way just as bad or even worse.

Pyr was also the American publisher of *River of Gods*, Ian McDonald's truly great novel set in a future India. Which begins to lead to the unsettling conjecture that major American science fiction publishers have come to believe that science fic-

tion novels set in a non-American extrapolated future with non-American lead characters—and particularly Third World lead characters in a Third World county like India become high tech and at the very least co-dominant—will not appeal to a sufficiently large American readership to be commercially viable.

Bad enough if editors, publishers, marketers, and bean counters believe this is so. Truly horrible on a political and cultural level if they are right.

Be that as it may, on a literary level, or more precisely where commerce and literary values collide in a writer's career, there would seem to be some grim lessons here.

When film and television show novelizations began to invade the SF racks, first written by SF writers for light advances and minimal royalties or none at all, the pitch made by editors and publishers to those writers was that this would be a way to build readership—later to be known as “fan base”—for their own freestanding more heartfelt personal work.

Later, as these media novelizations not only became dominant, but, thanks to the Star Trek and Star Wars media franchises and what followed, landed tie-in novelization writers like Kevin Anderson and Alan Dean Foster on the national overall best-seller lists, big money became involved, if not what the writers would garner from selling the same number of copies of a novel where the lion's share wasn't going to the media franchise.

Very few, if any, SF writers seemed to benefit more from this more than Alan Dean Foster. Mucho dinero from those media tie-in novelizations and the building of sufficient commercial fan base for his own self-created SF novel series, and perhaps

his free-standing one-offs, too. Foster has racked up great sales figures for the media novelizations, which would seem to have led to good numbers for his own personal science fiction and particularly for the series that built fan base from one novel to the next. Not in the same league as the novelizations, of course, but quite commercially viable.

But now it would seem that, with *Sagramanda*, his commercial success in the BookScan numbers has revealed its paradoxical dark side, namely the anti-literary trap of "order to net."

The major bookstore chains, all two of them, which dominate retail sales, have software that tells them exactly what a writer's last book sold, and that's what they order of the next one, plus maybe 10 percent if the writer's numbers have been rising, minus 10 percent if they are not. And since only a handful of human buyers are responsible for the annual ordering of tens of thousands of titles, this is pretty much an automated process.

What the chains order in turn determines the publisher's print run and therefore initial distribution, which pretty much determines sales, and entirely determines unit cost, which determines whether a title has a chance of being profitable or not, which determines whether or not it will be bought in the first place, since BookScan, a subsidiary of the Nielsen TV rating outfit, can more or less tell them what the chains will order in advance by tracking what the author's last book sold.

The self-fulfilling prophecy as a self-maintaining circle jerk.

Needless to say, this is extremely detrimental to the careers of mid-list writers with diminishing BookScan numbers, but *Sagramanda* is an ex-

ample of what it can do to a commercially quite successful writer like Alan Dean Foster.

Because this is the way the publishing business now works, a writer like Foster is taking a big risk by writing a more literarily adventurous novel than what has put up the big numbers—even if it turns out to be his masterpiece and still commercially viable, too, but with a diminished natural audience—because careerwise he cannot afford to have the numbers for one novel drop very hard. Neither can his commercial publisher lest the orders for the one after that take a plunge no matter how much larger a readership for it might be out there.

We are not talking about literary judgment here, we are talking about mindless computerized number-crunching. If *Sagramanda* were to sell significantly less than previous Alan Dean Foster product, the orders for his next novel—even were it a return to the more time-tested stuff—would go down, and his major commercial publisher would not want that, and so would not want *Sagramanda*.

I suspect that Foster has been around long enough to have enough publishing street savvy to know this up front, and therefore must have felt a strong literary and perhaps even political commitment to write *Sagramanda* come what may. For all I know, he or his agent might not have even tried to place the novel with a major SF line, but deliberately chose a smaller press as a kind of hopeful statement to the chain software that this was a sidebar that should not figure into the marketing numbers, as Sylvester Stallone chose to work for scale in *Cop Land* for much the same reason.

It is certainly a sorry commentary

on the state of American publishing that such a strategy may have been necessary, but a positive commentary on Alan Dean Foster's idealistic commitment to something greater than the commercial bottom line. And it should serve as a cautionary tale for writers against the very bad advice many writers were given in the past and are still given by cynical editors and media mavens today.

Contrary to what writers have been conned into believing, the readership that media tie-ins build is primarily a readership for more of the same, though it may give something of a boost to your other stuff. And the current nature of the biz then all but traps you into the continued production of the aforementioned more of the same, probably to the detriment of your literary development.

But while I'm castigating the publishing industry for this situation, truth-telling compels me to cast a stone at myself. I must confess that all the media novelization tie-ins that Foster wrote, as well as some of his rather sci-fi titled personal series novels, prejudiced me against his work as a critic and caused me to disregard him as a lightweight, more or

less a commercial hack. For all I know, having paid no previous serious attention to his work, I may have been right.

But *Sagramanda* is certainly no lightweight novel and anyone reading it is not likely to ever consider Alan Dean Foster a lightweight novelist again, even if he should produce subsequent lightweight work in the future.

Mea culpa for that one.

But maybe not entirely.

My critical attention or lack thereof may not be the be-all or end-all of anything, but I find it just as hard to believe that there aren't quite a few potential readers out there with a similar prejudgment.

It's a vicious circle, Alan. When you break out literarily with something on the level of *Sagramanda*, not only may you have trouble getting it to its proper maximum readership for bottom-line commercial reasons, but those very readers—the ones indifferent to your other stuff but who would read this book with appreciation—will tend to disbelieve that such a work could come from such a source until they actually have read it.○

## MOVING?

Please send both your old and new address (and include both zip codes) to our subscription department.

Write to us at: Asimov's Science Fiction, Dept. NS, 6 Prowitt St., Norwalk, CT 06855-1220. Or on our website: [www.asimovs.com](http://www.asimovs.com)



# SF CONVENTIONAL CALENDAR

With the World and North American Science Fiction Conventions over, it's time for more intimate gatherings. Plan now for social weekends with your favorite SF authors, editors, artists, and fellow fans. For an explanation of con(vention)s, a sample of SF folksongs, and info on fanzines and clubs, send me an SASE (self-addressed, stamped #10 [business] envelope) at 10 Hill #22-L, Newark NJ 07102. The hot line is (973) 242-5999. If a machine answers (with a list of the week's cons), leave a message and I'll call back on my nickel. When writing cons, send an SASE. For free listings, tell me of your con 5 months out. Look for me at cons behind the Filthy Pierre badge, playing a musical keyboard.—Erwin S. Strauss

## SEPTEMBER 2007

- 7-9—CopperCon. For info, write: Box 62613, Phoenix AZ 85082. Or phone: (480) 949-0415 (10 AM to 10 PM, not collect). (Web) [casfs.org/cucon](http://casfs.org/cucon). (E-mail) [cu26@coppercon.org](mailto:cu26@coppercon.org). Con will be held in: Tempe AZ (if city omitted, same as in address) at the Mission Palms. Guests will include: guest list to be announced. Traditional post-WorldCon unwinder.
- 14-16—Oxonmoot. [tolkensociety.info](http://tolkensociety.info). Oxford UK. Tolkien & other high fantasy (C.S. Lewis, Charles Williams, etc.).
- 21-23—FenCon, Box 560576, The Colony TX 75056. [fencon.org](http://fencon.org). [info@fencon.org](mailto:info@fencon.org). Dallas TX. Details to be announced.
- 21-23—Foolsap, c/o Little Cat Z, Box 2461, Seattle WA 98111. [foolscapcon.org](http://foolscapcon.org). For SF and fantasy on paper.
- 21-23—British Fantasy Con. [fantasycon.org.uk](http://fantasycon.org.uk). [fcon@britishfantasysociety.org.uk](mailto:fcon@britishfantasysociety.org.uk). In the UK. Long-running con.
- 21-23—EuroCon. (+45207) 50181. [fantastik.dk](http://fantastik.dk). Copenhagen, Denmark. David A. Hardy. European continental con.
- 27-30—BoucherCon. [bouchercon.com](http://bouchercon.com). Anchorage AK. The mystery fiction WorldCon, named after Anthony Boucher.
- 28-30—Arcana, Box 8036, Minneapolis MN 55408. (612) 721-5959. St. Paul MN. For fans of dark fantasy.
- 28-30—Otaku University. [otakuuniversity.com](http://otakuuniversity.com). Mesa Convention Center, Mesa AZ. Deborah Deacon. Anime.

## OCTOBER 2007

- 5-8—GaylaxiCon, 375 Highland Ave. #201, Atlanta GA 30312. [gaylaxicon2007.org](http://gaylaxicon2007.org). Atlanta GA. Gay-friendly con.
- 5-7—ConText, Box 163391, Columbus OH 43216. (614) 889-0436. [contextsf.org](http://contextsf.org). For written SF and fantasy.
- 5-7—ConClave, Box 2915, Ann Arbor MI 48106. [conclavesf.org](http://conclavesf.org). Crowne Plaza Detroit Airport, Romulus MI. SF/fantasy.
- 5-7—V-Con. [v-con.ca](http://v-con.ca). Executive Airport Plaza, Richmond (near Vancouver) BC. General SF and fantasy convention.
- 5-7—Nan Desu Kan. [ndkdenver.org](http://ndkdenver.org). Marriott Denver Tech Center, Denver CO. Anime convention.
- 5-7—Galileo. [galileo7.de](http://galileo7.de). Swissôtel Neuss, Düsseldorf Germany. SF and fantasy media convention.
- 12-14—Icon, 308 E. Burlington #201, Iowa City IA 52240. [mindbridge.org/icon](http://mindbridge.org/icon). Clarion, Cedar Rapids IA.
- 12-14—ValleyCon, Box 7202, Fargo ND 58106. [valleycon.com](http://valleycon.com). Best Western Doublewood. General SF and fantasy.
- 12-14—ConCept. [conceptsff.ca](http://conceptsff.ca). Days Hotel, Guy St., Montreal QE. Programming in French and English.
- 12-14—AngliCon, Box 75536, Seattle WA 98175. (206) 789-2748. British media SF and fantasy.
- 13-14—Ireland National Con, c/o Electric Dragon, 19a Main, Black Rock, Dublin, Ireland. [octocon.com](http://octocon.com). Dublin area.
- 19-21—CapClave, c/o Box 53, Ashton MD 20861. [capclave.org](http://capclave.org). Hilton, Rockville MD (Washington DC).
- 19-21—ConStellation, Box 4857, Huntsville AL 35815. [con-stellation.org](http://con-stellation.org). Huntsville AL. General SF/fantasy convention.
- 26-28—MileHiCon, Box 487, Westminster CO 80036. [milehicon.org](http://milehicon.org). Hyatt Tech Center, Denver CO. General SF/fantasy.
- 26-28—NecronomiCon, Box 2213, Plant City FL 33564. [stonehill.org](http://stonehill.org). Hyatt Downtown, Tampa FL. General SF/fantasy.

## NOVEMBER 2007

- 1-4—World Fantasy Con, Box 1086, Schenectady NY 12301. [lastsfa.org](http://lastsfa.org). Saratoga Springs NY. Newman, Ernstswiller.
- 9-11—PhilCon, Box 8303, Philadelphia PA 19101. [philcon.org](http://philcon.org). Sheraton City Center. Eric Flint. World's oldest SF con.

## AUGUST 2008

- 6-10—Denvention 3, Box 1349, Denver CO 80201. [denvention3.org](http://denvention3.org). Bujoid, Whitmore, McCarthy. WorldCon. \$130+.

# CLASSIFIED MARKETPLACE

Asimov's Oct/Nov '07

Advertise in the world's leading science fiction magazines with our Asimov's/Analog combined classified section. Ad rates per issue: \$2.95 per word (10 word minimum), \$125 per column inch (2.25 inch maximum). SPECIAL INTRODUCTORY OFFER: Buy two ads and receive a third ad FREE. Send orders to: Dell Magazines, Classified Department, 475 Park Ave. S., 11th Floor, New York, NY 10016. Direct inquires to: (212) 686-7188; Fax (212) 686-7414 or email: [adsales@dellmagazines.com](mailto:adsales@dellmagazines.com)

---

## BOOKS/PUBLICATIONS

---

**BUYING SCIENCE FICTION** magazines, book collections. Will travel for large accumulations. Bowman, Box 167, Carmel, IN 46082.

**ENEMY MINE**, All books in print, Check: [www.barrylongyear.net](http://www.barrylongyear.net)

**DREADNOUGHT: INVASION SIX** by Richard F. Roszko. *Existence to extinction is one short trip*. New SF Adventure comic! See sample pages! Buy at [dreadnoughtseries.com](http://dreadnoughtseries.com)!

**FOR A GOOD TIME** read Louis Fried's adult fantasy anthology *Other Countries/Other Worlds*, available at booksellers or <http://outskirtspress.com/OtherCountriesOtherWorlds>

**FOUNTAIN OF ECSTASY**, a fast-paced spiritual suspense science fiction novel that evokes the sinewy plot of *The Da Vinci Code*. See: [www.fountain-of-ecstasy.com](http://www.fountain-of-ecstasy.com)

---

## BOOKS/PUBLICATIONS

---

**Humorous Science Fiction Stories**. To order, send \$20 money order payable to: Andre Morin. Send to: 3825 Dupuis Avenue, Apt 10, Montreal, Quebec H3T 1E5, Canada

**PUBLISH YOUR BOOK ONLINE**, Third Millennium Publishing, a cooperative of online writers and resources, <http://3mpub.com>

**NEARLY GOT KILLED** investigating the murder of a colleague. Liberated a world from hostile alien invaders. Just another day at the offices of "Earth Incorporated", the new sci-fi novel by Shawn B. Childers available now at booksellers everywhere or order direct from publisher at: [www.publishamerica.com/shopping](http://www.publishamerica.com/shopping).

**Rate the November Issue of Analog** at <http://scifidb.org/know/sa/2007/11> and let your opinions be known!

## ASIMOV'S SCIENCE FICTION

Classified Department 475 Park Ave South, 11th Floor New York, NY 10016  
Call: (212) 686-7188 Fax: (212) 686-7414 [adsales@dellmagazines.com](mailto:adsales@dellmagazines.com)

# NEXT ISSUE

## DECEMBER HOLIDAY ISSUE

December issues always provoke an unusual feeling within all who work on monthly publications, for we find ourselves in festive fictional surroundings months before the holidays themselves take place. We at *Asimov's* have not decorated our offices for the holiday season quite yet, (a glance in the direction of my calendar reveals the month to be July, and subscribers will receive the issue in October, making everyone confused). No matter—for us, it is a Christmas in July, and what better way to celebrate than by introducing a wonderful new holiday novella by one of science fiction's most admired, popular, and award-winning writers: **Connie Willis**. In her first holiday-themed story for *Asimov's* since December 2003's "Just Like the Ones We Used to Know" (a story I recall reading during a particularly humid summer thunderstorm), Ms. Willis entertains again with the tale of a mysterious alien entourage whose purpose upon Earth is not entirely clear. The mystery of their mission only deepens as the aliens are taken through a bustling shopping mall during the frantic holiday season—the events thereafter are sure to surprise and delight you. This will undoubtedly be considered one of the best stories of the year, so don't miss "All Seated on the Ground"!

## ALSO IN DECEMBER

December also features the second part (of four) from **Allen M. Steele's** exciting new Coyote novel, *Galaxy Blues*. Jules Truffaut, recent stowaway to Coyote, and under the employ of billionaire Morgan Goldstein, must meet the alien *hjadd* as copilot with the motley crew aboard "The Pride of Cucamonga." New writer **Stephen Graham Jones** makes his *Asimov's* debut with a curious story about computers in love (and you thought human relationships were complicated), in "do(this)"; **Jack Skillingstead** returns to our pages with a tense story about the subtle power of the imagination and how it affects "Strangers on a Bus"; **Nancy Kress**, one of science fiction's best, presents a taut and all-too-real glimpse of a powerful philanthropist willing to bend "The Rules" for the greater good; and new writer **Tim McDaniel**, making his *Asimov's* debut, offers all good alien visitors to our confusing planet Earth a handy and humorous guidebook, "The Lonesome Planet Travelers Advisory."

## EXCITING FEATURES

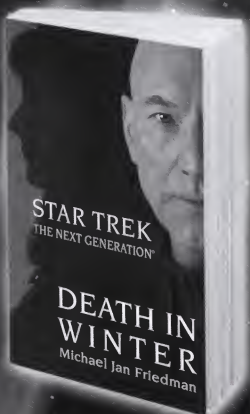
**Robert Silverberg's** "Reflections" column continues his revisitations of classic SF authors by "Rereading Heinlein"; **Peter Heck** offers "On Books"; plus an array of pleasant poetry by many of your favorite poets. Look for our December issue at your newsstand on October 9, 2007. Or you can subscribe to *Asimov's*—by mail or online, in varying formats, including downloadable forms, by going to our website, ([www.asimovs.com](http://www.asimovs.com))—and make sure that you don't miss any of the great stuff we have coming up!

# MAKE IT SO.

TWO ALL-NEW ADVENTURES FEATURING CAPTAIN JEAN-LUC  
PICARD AND THE CREW OF THE U.S.S. *ENTERPRISE*™



**PICARD ONCE AGAIN HEARS**  
the voice of the Borg... can he  
stop them?



**ON A BLEAK WORLD**  
beyond the Romulan Neutral Zone,  
Doctor Crusher is declared  
missing—and presumed dead.  
How far will Picard go to save her?



Published by Pocket Books A Division of Simon & Schuster A CBS Company

[www.simonandschuster.com](http://www.simonandschuster.com)  
[www.startrek.com](http://www.startrek.com)

Also available as an eBook.



™, ®, & © 2007 CBS Studios Inc. STAR TREK and  
Related Marks are trademarks of CBS Studios Inc.  
CBS and the CBS EYE logo are trademarks of  
CBS Broadcasting Inc. All Rights Reserved.

New in The Library of America Series.

# PHILIP K. DICK

## Four Novels of the 1960s

Jonathan Lethem, editor

Here in one volume for the first time are four of Philip K. Dick's most original novels. The Hugo Award-winning *The Man in the High Castle* (1962) describes an alternate world in which the Axis has won World War II and America is divided into occupation zones. The dizzying *The Three Stigmata of Palmer Eldritch* (1965) posits a future in which competing hallucinogens proffer different brands of virtual reality. *Do Androids Dream of Electric Sheep?* (1968), about a bounty hunter in search of escaped androids in a post-apocalyptic future, was the basis for the movie *Blade Runner*. In *Ubik* (1969) psychic espionage agents and cryonically frozen patients inhabiting a phantasmal "half-life" bring Dick's theme of simulated realities and false perceptions to ever more disturbing conclusions.



835 pages • \$35

"Dick's great accomplishment was to turn the materials of American pulp-style science fiction into a vocabulary for a remarkably personal vision of paranoia and dislocation."

Jonathan Lethem

"The most outré science fiction writer of the 20th century has finally entered the canon."

Wired Magazine

"Four Novels of the 1960s takes its well-earned place in The Library of America."

The New York Times Book Review



The Library of America

Celebrating 25 Years of American Classics

[www.loa.org](http://www.loa.org)

Distributed by Penguin Group (USA), Inc.